

previous year. Equipment manufacturers using the percent of production allowance, would also have to calculate the percent of production the exempted engines represented for the appropriate year. Each report would include a cumulative calculation (both total number and, if appropriate, the percent of production) for all years the equipment manufacturer has used the transition provisions for each of the proposed Tier 4 power categories. In order to ease the reporting burden on equipment manufacturers, EPA intends to work with the manufacturers to develop an electronic means for submitting information to EPA.

EPA is requesting comment on whether these reporting requirements should also apply to the current Tier 2/ Tier 3 transition program, and if so, how these provisions should be phased in for equipment manufacturers using the current Tier 2/ Tier 3 transition provisions. Because equipment manufacturers are already required to keep the information we would require under the reporting requirements described above, we believe such a reporting requirement could be implemented to cover exempted engines produced in the 2005 model year. We request comments on the appropriate start date should we adopt such reporting requirements for equipment manufacturers for the Tier 2/ Tier 3 transition program.

d. Labeling Requirements for Engine and Equipment Manufacturers

Engine manufacturers are currently required to label their certified engines with a label that contains a variety of information. Under this proposal, we are proposing that engine manufacturers would be required to identify on the engine label if the engine is exempted under the Tier 4 transition program. In addition, equipment manufacturers would be required to apply a label to the engine or piece of equipment that identifies the equipment as using an engine produced under the Tier 4 transition program for equipment manufacturers. These proposed labeling requirements would allow EPA to easily identify the exempted engines and equipment, verify which equipment manufacturers are using these exceptions, and more easily monitor compliance with the transition provisions. Labeling of the equipment could also help U.S. Customs to quickly identify equipment being imported using the exemptions for equipment manufacturers.

EPA is requesting comment on whether these labeling requirements should also apply to the current Tier 2/

Tier 3 transition program, and if so, how these provisions should be phased in for engine manufacturers and equipment manufacturers. Due to limited impact of such a labeling requirement, we believe such a requirement could be implemented to cover model year 2005 engines and equipment using those engines. We request comments on the appropriate start date should we adopt such labeling requirements for engine manufacturers and equipment manufacturers for the Tier 2/ Tier 3 transition program.

4. What Are the Proposed Requirements Associated With Use of Transition Provisions for Equipment Produced by Foreign Manufacturers?

Under the current regulations, importers are treated as equipment manufacturers and are each allowed the full allowance under the transition provisions. Therefore, under the current provisions, importers of equipment from a foreign equipment manufacturer could as a group import more exempted equipment from that foreign manufacturer than 80% of that manufacturer's production for the U.S. market or more than the small volume allowances identified in the transition provisions. Therefore, the current regulation creates a potentially significant disparity between the treatment of foreign and domestic equipment manufacturers. EPA did not intend this outcome, and does not believe it is needed to provide reasonable leadtime to foreign equipment manufacturers.

Under this proposal, only the nonroad equipment manufacturer that is most responsible for the manufacturing and assembling process would qualify for the allowances or other relief provided under the Tier 4 transition provisions. Foreign equipment manufacturers who comply with the compliance related provisions discussed below would receive the same allowances and other transition provisions as domestic manufacturers. Foreign equipment manufacturers who do not comply with the compliance related provisions discussed below would not receive allowances. Importers that have little involvement in the manufacturing and assembling of the equipment would not receive any allowances or other transition relief directly, but could import exempt equipment if it is covered by an allowance or transition provision associated with a foreign equipment manufacturer. This would allow transition allowances and other provisions to be used by foreign equipment manufacturers in the same way as domestic equipment

manufacturers, while avoiding the potential for importers unnecessarily using allowances. For the purposes of this proposal, a foreign equipment manufacturer would include any equipment manufacturer that produces equipment outside of the United States that is eventually sold in the United States.

All foreign nonroad equipment manufacturers wishing to use the transition provisions would have to comply with all requirements of the regulation discussed above including: notification, recordkeeping, reporting and labeling. Along with the equipment manufacturer's notification described earlier, a foreign nonroad equipment manufacturer would have to comply with various compliance related provisions similar to those adopted in several fuel regulations relating to foreign refiners.³⁰⁴ As part of the notification, the foreign nonroad equipment manufacturer would have to:

- (1) Agree to provide EPA with full, complete and immediate access to conduct inspections and audits;
- (2) Name an agent in the District of Columbia for service of process;
- (3) Agree that any enforcement action related to these provisions would be governed by the Clean Air Act;
- (4) Submit to the substantive and procedural laws of the United States;
- (5) Agree to additional jurisdictional provisions;
- (6) Agree that the foreign nonroad equipment manufacturer will not seek to detain or to impose civil or criminal remedies against EPA inspectors or auditors for actions performed within the scope of EPA employment related to the provisions of this program;
- (7) Agree that the foreign nonroad equipment manufacturer becomes subject to the full operation of the administrative and judicial enforcement powers and provisions of the United States without limitation based on sovereign immunity; and
- (8) Submit all reports or other documents in the English language, or include an English language translation.

In addition to these proposed requirements, we are requesting comment on requiring foreign equipment manufacturers that participate in the transition program to comply with a bond requirement for engines imported into the U.S. We describe a bond program below which we believe could be an important tool to ensure that foreign equipment manufacturers are subject to the same

³⁰⁴ See, for example, 40 CFR 80.410 concerning provisions for foreign refiners with individual gasoline sulfur baselines.

level of enforcement as domestic equipment manufacturers. We believe a bonding requirement for the foreign equipment manufacturer is an important enforcement tool in order to ensure that EPA has the ability to collect any judgments assessed against a foreign equipment manufacturer for violations of these transition provisions. We request comments on all aspects of the specific program we describe here, but also on alternative measures which would achieve the same goal. A memo has been placed in the docket for today's notice that contains draft regulatory language that would apply if we adopted a bonding requirement as discussed in this section.³⁰⁵

Under a bond program, the participating foreign equipment manufacturer would have to obtain annually a bond in the proper amount that is payable to satisfy United States judicial judgments that results from administrative or judicial enforcement actions for conduct in violation of the Clean Air Act. The foreign equipment manufacturer would have three options for complying with the bonding requirement. The foreign equipment manufacturer could:

(1) Post a bond by paying the amount of the bond to the Treasurer of the United States;

(2) obtain a bond in the proper amount from a third party surety agent, provided EPA agrees in advance as to the third party and the nature of the surety agreement; or

(3) obtain an EPA waiver from the bonding requirement, if the foreign equipment manufacturer can show that it has assets of an appropriate value in the United States.

EPA expects the third bond option to address instances where an equipment manufacturer produces equipment outside the United States containing flexibility engines, but also has facilities (and thus significant assets) inside the United States. Under this third option, such a manufacturer could apply to the EPA for a waiver of the bonding requirement.

Since EPA's concerns of compliance will relate to the nature and tier of engine used in the transition equipment, we believe the bond value should be related to the value of the engine used. Therefore, we are requesting comment on a value of the bond set at a level designed to represent approximately 10% of the cost of the engine for each piece of transition equipment produced

for import into the United States under this program. So that manufacturers have certainty regarding the bond amounts and so that there isn't a need for extensive data submittals and evaluation between EPA and the manufacturer, we request comment on EPA specifying in this rulemaking the estimated average cost for a Tier 4 engine on which the bond would be based. For example, we believe cost estimates on the order of those contained in Table 10.3-3 of the draft RIA may be an appropriate basis. Under this approach, transition equipment using engines in the less than 25 horsepower category would require a bond of \$150 per piece of equipment (10 percent of \$1,500), equipment using engines in the 25-50 horsepower range would require a bond of \$250 per piece of equipment (10 percent of \$2,500), etc. We also request comment on whether 10 percent is a sufficient value for the bond or whether higher values, such as 50 percent, or lower values are more appropriate.

Finally, if a foreign equipment manufacturer's bond is used to satisfy a judgment, the foreign equipment manufacturer would then be required to increase the bond to cover the amount used within 90 days of the date the bond is used.

In addition to the foreign equipment manufacturer requirements discussed above, EPA also proposes to require importers of exempted equipment from a complying foreign equipment manufacturer to comply with certain provisions. EPA believes these importer provisions are essential to EPA's ability to monitor compliance with the transition provisions. EPA proposes that the regulations would require each importer to notify EPA prior to their initial importation of equipment exempted under the Tier 4 transition provisions. Importers would be required to submit their notification prior to the first calendar year in which they intend to import exempted equipment from a complying foreign equipment manufacturer under the transition provisions. The importer's notification would need to include the following information:

(1) The name and address of importer (and any parent company);

(2) The name and address of the manufacturers of the exempted equipment and engines the importer expects to import;

(3) Number of exempted equipment the importer expects to import for each year broken down by equipment manufacturer and power category; and

(4) The importer's use of the transition provisions in prior years

(number of flexibility engines imported in a particular year, under what power category, and the names of the equipment and engine manufacturers).

In addition, EPA is proposing that any importer electing to import to the United States exempted equipment from a complying foreign equipment manufacturer would have to submit annual reports to EPA. The annual report would include the number of exempted equipment the importer actually imported to the United States in the previous calendar year; and the identification of the equipment manufacturers and engine manufacturers whose exempted equipment/engines were imported.

C. Engine and Equipment Small Business Provisions (SBREFA)

The Regulatory Flexibility Act (RFA) generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute, unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions. Since EPA believes that the proposed rule may have a significant economic impact on small businesses, we intend to prepare a regulatory flexibility analysis as part of this rulemaking, and have prepared an initial regulatory flexibility analysis (IRFA) pursuant to section 603 of the RFA which is part of the record for this proposal.

Under section 609(b) of the RFA, a Small Business Advocacy Review Panel (SBAR Panel or Panel) is required to be convened prior to publication of an IRFA that an agency may be required to prepare under the RFA. Section 609(b) directs the Panel to, through outreach with small entity representatives (SERs), report on the comments of the SERs and make findings on issues related to identified elements of an IRFA under section 603 of the RFA (*see* Section X.C of this preamble for more discussion on the elements of an IRFA). The purpose of the Panel is to gather information to identify potential impacts on small businesses and to develop options to mitigate these concerns. At the completion of the SBAR Panel process, the Panel is required to prepare a Final Panel Report. This report includes background information on the proposed rule being developed, information on the types of small entities that would be subject to the proposed rule, a description of efforts

³⁰⁵ "Potential Bond Regulations for Foreign Equipment Manufacturers Under the Tier 4 Nonroad Diesel Proposal," EPA memorandum from Leslie Kirby-Miles, U.S. EPA/OECA to Docket A-2001-28.

made to obtain the advice and recommendations of representatives of those small entities, and a summary of the comments that have been received to date from those representatives. Once completed, the Panel report is provided to the agency issuing the proposed rule and included in the rulemaking record. The report provides the Panel and the

Agency with an opportunity to identify and explore potential ways of shaping the proposed rule to minimize the burden of the rule on small entities while achieving the rule's purposes and when consistent with Clean Air Act statutory requirements.

EPA has approached this process with care and diligence. To identify representatives of small businesses for

this process, we used the definitions provided by the Small Business Administration (SBA) for manufacturers of nonroad diesel engines and vehicles. The categories of small entities in the nonroad diesel sector that will potentially be affected by this rulemaking are defined in the following table:

Industry	Defined as small entity by SBA if:	Major SIC codes
Engine manufacturers	Less than 1,000 employees	Major Group 35.
Equipment manufacturers:		
—construction equipment	Less than 750 employees	Major Group 35.
—industrial truck manufacturers (<i>i.e.</i> , forklifts)	less than 750 employees	Major Group 35.
—all other nonroad equipment manufacturers	Less than 500 employees	Major Group 35.

One small engine manufacturer and 5 small equipment manufacturers agreed to serve as Small Entity Representatives (SERs) throughout the SBAR Panel process for this proposal. These companies represented the nonroad market well, as the group of SERs consisted of businesses that manufacture various types of nonroad diesel equipment.

The following are the provisions recommended by the SBAR Panel, including both the provisions that we, EPA, are proposing and those on which we are requesting comment. As described in section VII.B above, there are other provisions that apply to all equipment manufacturers; however, most of the discussion in this section is geared to small entities only. We request comment on all aspects of both the provisions recommended by the Panel and on those that we are proposing in today's action.

1. Nonroad Diesel Small Engine Manufacturers

a. Lead Time Transition Provisions for Small Engine Manufacturers

i. What the Panel Recommended

The transition provisions recommended by the SBAR Panel for engines produced or imported by small entities are listed below. For all of the provisions, the Panel recommended that small engine manufacturers and small importers must have certified engines in model year 2002 or earlier in order to take advantage of these provisions. Each manufacturer would be limited to 2,500 units per year as this number allows for some market growth. The Panel recommended these stipulations in order to prohibit the misuse of the transition provisions as a tool to enter the nonroad diesel market or to gain unfair market position relative to other manufacturers.

Currently, certified nonroad diesel engines produced by small manufacturers all have a horsepower rating of 80 or less. The transition provisions that the Panel considered were dependent upon what approach, or approaches, were proposed for the rulemaking.

- For an approach with two phases of standards:

- An engine manufacturer could skip the first phase and comply on time with the second; or,

- A manufacturer could delay compliance with each phase of standards for three years.

- For an approach that entails only one phase of standards, the manufacturer could opt to delay compliance. It was recommended that the length of the delay be three years; however the Panel suggested that we request comment on whether this delay period should be two, three, or four years. Each delay would be pollutant specific (*i.e.*, the delay would apply to each pollutant as it is phased in).

The Panel believed that these options could offer an opportunity to reduce the burden on small manufacturers while at the same time meet the regulatory goals of the Agency. The Panel further believed that these options would not put small manufacturers at a significant disadvantage as they would be in compliance with the Tier 4 standards in the long run and the options would give them more lead time to comply. The Panel also felt that a complete exemption from the upcoming standards (even assuming that such an exemption could be justified legally) would put these manufacturers at a competitive disadvantage as the rest of the market would be producing compliant engines and eventually there would not be equipment designed to accommodate their engines.

ii. What EPA is Proposing

Due to the structure of the standards and their timing as discussed in Section III, EPA is proposing transition provisions for small engine manufacturers which encompass both approaches recommended by the Panel, with the inclusion of the 2,500 unit limit (as suggested by the Panel) for each manufacturer.

- First, with regard to PM:

- Engines under 25 hp and those between 75 and 175 hp have only one standard so the manufacturer could delay compliance with these standards for up to three years. Based on available data, we believe that there are no small manufacturers of nonroad diesel engines above 175 hp.

- For engines between 50 and 75 hp, EPA is proposing a one phase program with the option to delay compliance for one year if interim standards are met. For this power category we are treating the PM standard as a two phase standard with the stipulation that small manufacturers cannot use PM credits to meet the interim standard. Furthermore, if a small manufacturer elects the optional approach to the standard (elects to skip the interim standard), no further relief will be provided.

- Second, with regard to NO_x:

- There is no change in the NO_x standard for engines under 25 hp and those between 50 and 75 hp. For these two power bands EPA is proposing no special provisions.

- For engines in the 25–50 hp and the 75–175 hp categories we are proposing a three year delay in the program consistent with the one-phase approach recommendation above. Based on available data, we believe that there are no small manufacturers of nonroad diesel engines above 175 hp.

b. Hardship Provisions for Small Engine Manufacturers

i. What the Panel Recommended

The Panel recommended two types of hardship provisions for small engine manufacturers. These provisions are:

- For the case of a catastrophic event, or other extreme unforeseen circumstances, beyond the control of the manufacturer that could not have been avoided with reasonable discretion (*i.e.*, fire, tornado, supplier not fulfilling contract, etc.); and
- For the case where a manufacturer has taken all reasonable business, technical, and economic steps to comply but cannot.

Either hardship relief provision would provide lead time for up to 2 years, and a manufacturer would have to demonstrate to EPA's satisfaction that failure to sell the noncompliant engines would jeopardize the company's solvency. EPA may also require that the manufacturer make up the lost environmental benefit.

ii. What EPA is Proposing

EPA is proposing to adopt the Panel recommendations for hardship provisions for small engine manufacturers. While perhaps ultimately not necessary given the phase-in schedule discussed above, such provisions provide a useful safety valve in the event of unforeseen extreme hardship.

c. Other Small Engine Manufacturer Issues

i. What the Panel Recommended

The Panel also recommended that an ABT program be included as part of the overall rulemaking program. In addition, the Panel suggested that EPA take comment on including specific ABT provisions for small engine manufacturers.

ii. What EPA is Proposing

As discussed above, an ABT program has been included in the overall program in this rule proposal. ABT is being proposed in today's action as it is intended to enhance the flexibility offered to engine manufacturers that will be of assistance in making the transition to meet the stringent standards proposed in today's rules in the leadtime proposed. As noted in Section VII.A, EPA is proposing to retain the basic structure of the current nonroad diesel ABT program, though a number of changes (which will help to accommodate implementation of the proposed emission standards) are being proposed today.

Though the Panel recommended small engine manufacturer-specific ABT provisions, such provisions are not being included in this proposal. EPA does not believe it would be appropriate to provide a different ABT program for small engine manufacturers, especially given the provisions mentioned above.

Discussions during the SBAR process indicated that small volume manufacturers would need extra time to comply due to cost and personnel constraints, and there is little reason to believe that small manufacturer specific ABT provisions could create an incentive to accelerate compliance. Small manufacturers would of course be able to participate in the general ABT program, which EPA believes will provide sufficient lead time for small entities.

2. Nonroad Diesel Small Equipment Manufacturers

a. Transition Provisions for Small Equipment Manufacturers

i. What the Panel Recommended
The Panel recommended that EPA adopt the transition provisions described below for small manufacturers and small importers of nonroad diesel equipment. These transition provisions are similar to those in the Tier 2/3 rule (*see* 89.102). The recommended transition provisions are as follows:

- **Percent-of-Production Allowance:** Over a seven model year period, equipment manufacturers may install engines not certified to the new emission standards in an amount of equipment equivalent to 80 percent of one year's production. This is to be implemented by power category with the average determined over the period in which the flexibility is used.

- **Small Volume Allowance:** A manufacturer may exceed the 80 percent allowance in seven years as described above, provided that the previous Tier engine use does not exceed 700 total over seven years, and 200 in any given year. This is limited to one family per power category.

Alternatively, the Panel also recommended, at the manufacturer's choice by hp category, a program that eliminates the "single family provision" restriction with revised total and annual sales limits as shown below:

- For categories <175 hp—525 previous Tier engines (over 7 years) with an annual cap of 150 units (these engine numbers are separate for each hp category defined in the regulations)

- For categories of > 175hp—350 previous Tier engines (over 7 years) with an annual cap of 100 units (these engine numbers are separate for each hp category defined in the regulations)

The Panel recommended that EPA seek comment on the total number of engines and annual cap values listed above. In contrast to the Tier 2/Tier 3 rule promulgated in 1998, SBA expects the transition to the Tier 4 technology will be more costly and technically

difficult. Therefore, the small equipment manufacturers may need more liberal flexibility allowances especially for equipment using the lower hp engines. The Panel's recommended flexibility may not adequately address the approximately 50 percent of small business equipment models where the annual sales per model is less than 300 and the fixed costs are higher. Thus, the SBA and OMB Panel members recommended that comment be sought on implementing the small volume allowance (700 engine provision) for small equipment manufacturers without a limit on the number of engine families which could be covered in any hp category.

- Due to the changing nature of the technology as the manufacturers transition from Tier 2 to Tier 3 and Tier 4, the Panel recommended that the equipment manufacturers be permitted to borrow from the Tier 3/Tier 4 flexibilities for use in the Tier 2/Tier 3 time frame.

- Lastly, the Panel recommended proposing a continuation of the current transition provisions, without modifications to the levels or nature of the provisions, that are available to these manufacturers.

To maximize the likelihood that the application of these provisions will result in the availability of previous Tier engines for use by the small equipment manufacturers, the Panel recommended that—similar to the application of flexibility options that are currently in place—these provisions should be provided to all equipment manufacturers.³⁰⁶

During the SBAR Panel process, an issue was raised requesting that EPA establish a provision which would allow small entity manufacturers to request limited "application specific" alternative standards for equipment configurations which present unusually challenging technical issues for compliance. The Panel recommended that EPA seek comment on the need for and value of special application specific standards for small equipment manufacturers.

ii. What EPA is Proposing

EPA is in fact proposing the Percent-of-Production and Small Volume Allowances for all equipment manufacturers, and explicitly took the

³⁰⁶ The Panel recognized that, similar to the Tier 2/3 standards, it may be necessary to provide transition provisions for all equipment manufacturers, not just for small entities; and the Panel recommended that this be taken into account. However, the work of the SBAR Panel is meant to develop regulatory alternatives for small manufacturers, thus the Panel nominally recommended transition provisions for small equipment manufacturers only.

Panel report into account in making that proposal (*see* Section VII.B. above). The Agency believes that this proposal should provide the type of transition leeway recommended by the Panel. EPA believes that the transition provisions could allow small equipment manufacturers to postpone any redesign needed on low sales volume or difficult equipment packages, thus saving both money and strain on limited engineering staffs. Within limits, small equipment manufacturers would be able to continue to use their current engine/equipment configuration and avoid out-of-cycle equipment redesign until the allowances are exhausted or the time limit passes.

With respect to these transition provisions, EPA requests comment on the Panel's suggested exemption and annual cap values listed above. As discussed above in Section VII.B, EPA also requests comment on implementing the small volume allowance provision without the single family limit provision using caps slightly lower than 700 units, with this provision being applied separately to each engine power category subject to the proposed standards.

Similar to the discussion in Section VII.B above, EPA requests comment on new proposed requirements associated with use of transition provisions by foreign importers. During the SBREFA Panel process, the Panel discussed the possible misuse of the transition provisions by using them as a loophole to enter the nonroad diesel equipment market or to gain unfair market position relative to other manufacturers. The Panel recognized that this was a possible problem, and believed that the requirement that small equipment manufacturers and importers have reported equipment sales using certified engines in model year 2002 or earlier was sufficient to alleviate this problem. Upon further analysis, EPA found that importers of equipment from a foreign equipment manufacturer could as a group import more excepted equipment from that foreign manufacturer than 80% of that manufacturer's production for the United States market or more than the small volume allowances identified in the transition provisions. This also creates a potentially significant disparity between the treatment of foreign and domestic equipment manufacturers. EPA did not intend this outcome, and does not believe it is needed to provide reasonable leadtime to foreign equipment manufacturers.

Therefore, as explained earlier in Section VII.B, EPA is requesting comment on the additional requirement

that only the nonroad diesel equipment manufacturer that is most responsible for the manufacturing and assembling process, and therefore the burden of complying with the proposed standards, would qualify for the allowances provided under the small equipment manufacturer transition provisions. Under this requirement, only an importer that produces or manufactures nonroad diesel equipment would be eligible for these transition provisions. An importer that does not manufacture or produce equipment does not face a burden in complying with the proposed standard, and therefore would not receive any allowances under these transition provisions directly, but could import exempt equipment if it is covered by an allowance or transition provisions associated with a foreign small equipment manufacturer. EPA believes that this requirement transfers the flexibility offered in these transition provisions to the party with the burden and would allow transition provisions and allowances to be used by foreign equipment manufacturers in the same way as domestic equipment manufacturers, while avoiding the potential for misuse by importers of unnecessary allowances. EPA also sees no reason that this provision should not apply in the same way to all importers, and thus (as explained in Section VII.B) is proposing that the provision apply uniformly.

EPA is also proposing the Panel's recommendation that equipment manufacturers be allowed to borrow from Tier 4 flexibilities in the Tier 2/3 timeframe. See the more extended discussion on this issue in Section VII.B above.

With regard to the Panel recommendation for a provision allowing small manufacturers to request limited "application specific" alternative standards for equipment configurations which present unusually challenging technical issues for compliance, EPA requests comment on this recommendation. EPA believes that the need for such a provision has not been established and that it likely would provide more lead time than can be justified, and could undermine emission reductions which are achievable. Moreover, no participant in the SBAR process offered any empirical support that such a problem even exists. Nor have such issues been demonstrated (or raised) by equipment manufacturers, small or large, in implementing the current nonroad standards. In addition, EPA believes that any application-specific difficulties can be accommodated by the transition provisions the Agency is proposing

including ABT. Nonetheless, in keeping with the SBAR recommendations, comment is requested on the value of, and need for, special application specific standards for small equipment manufacturers.

b. Hardship Provisions for Small Equipment Manufacturers

i. What the Panel Recommended

The Panel also recommended that two types of hardship provisions be extended to small equipment manufacturers. These provisions are:

- For the case of a catastrophic event, or other extreme unforeseen circumstances, beyond the control of the manufacturer that could not have been avoided with reasonable discretion (*i.e.* fire, tornado, supplier not fulfilling contract, etc.).

- For the case where a manufacturer has taken all reasonable business, technical, and economic steps to comply but cannot. In this case relief would have to be sought before there is imminent jeopardy that a manufacturer's equipment could not be sold and a manufacturer would have to demonstrate to the Agency's satisfaction that failure to get permission to sell equipment with a previous Tier engine would create a serious economic hardship. Hardship relief of this nature cannot be sought by a "integrated" manufacturer (one which also manufactures the engines for its equipment).

ii. What EPA is Proposing

EPA is proposing that the Panel recommended hardship provisions be extended to small equipment manufacturers in addition to the transition provisions described above. To be eligible for these hardship provisions (as well as the proposed transition provisions), equipment manufacturers and importers must have reported equipment sales using certified engines in model year 2002 or earlier. As explained earlier, this proposal is needed to thwart misuse of these provisions as a loophole to enter the nonroad diesel equipment market or to gain unfair market position relative to other manufacturers. We request comment on this restriction.

As explained earlier, hardship relief would not be available until other allowances have been exhausted. Either relief provision would provide small equipment manufacturers with additional lead time for up to two model years based on the circumstances, but EPA may require recovery of the lost environmental benefit.

EPA requests comment on all of the aspects of the proposed hardship provisions for small equipment manufacturers.

D. Phase-In Provisions

In Section III we described the proposed NO_x and NMHC standards phase-in schedule. This phase-in requirement is based on percentages of a manufacturer's production for the U.S. market. We recognize, however, that manufacturers need to plan for compliance well in advance of the start of production, and that actual production volumes for any one model year may differ from their projections. On the other hand, we believe that it would be inappropriate and infeasible to base compliance solely on a manufacturer's projections. That could encourage manufacturers to overestimate their production of complying phase-in engines, and could result in significantly lower emission benefits during the phase-in. We voiced the same concern with respect to the highway HDDE phase-in schedule (see 66 FR 5109). As in the highway HDDE program we propose to initially only require nonroad diesel manufacturers to project compliance with the phase-in based on their projected production volumes, provided that they made up any deficits (in terms of percent of production) the following year.

Because we expect that a manufacturer making a good-faith projection of sales would not be very far off of the actual production volumes, we are proposing to limit the size of the deficit that would be allowed, as in the highway program. In all cases, the manufacturer would be required to produce at least 25% of its production in each phase-in power category as "phase-in" engines (meeting the proposed NO_x and NMHC standards or demonstrating compliance through use of ABT credits) in the phase-in years (after factoring in any adjustments for Early Introduction or Blue Sky Series engine credits; see Section VII.E). This minimum required production level would be 20% for the 75–175 hp category if a manufacturer exercises the option to comply with a reduced phase-in schedule in lieu of using banked Tier 2 ABT credits, as discussed in Section III.B1.b. Another important proposed restriction is that manufacturers would not be allowed to have a deficit in the year immediately preceding the completion of the phase-in to 100%. This would help ensure that manufacturers are able to make up the deficit. Since they could not produce more than 100% low-NO_x engines after the final phase-in year, it would not be possible to make up a deficit from this year. These provisions are identical to those adopted in the highway HDDE program.

E. What Might Be Done To Encourage Innovative Technologies?

1. Incentive Program for Early or Very Low Emission Engines

In our rulemakings for heavy-duty highway engines and light-duty Tier 2 vehicles, we expressed our view that providing incentives for manufacturers to introduce engines emitting at very low levels early, or at levels significantly below the final standards, is appropriate and beneficial. We believe that such inducements may help pave the way for greater and/or more cost effective emission reductions from future engines and vehicles. We believe this also holds for the early introduction of low-emitting nonroad diesel engines. We also believe that the opportunity for a practical early-engine program is even greater for the nonroad sector than for the highway sector, considering the long lead times before these proposed nonroad diesel standards would take effect, the large variety of applications (and therefore potential pull-ahead opportunities) in the nonroad sector, the large number of machines fueled at dedicated fuel stations on construction sites, farms, and industrial complexes, and the widespread availability of very low sulfur diesel fuel at highway outlets after 2006, even sooner in some areas. Thus we are proposing an early-engine incentive program very similar to that adopted for highway engines and vehicles.

Specifically, we are proposing that manufacturers be permitted to take credit for engines certified to this rule's proposed standards prior to the 2011 model year in exchange for making fewer engines certified to these standards in or after the 2011 model year. In other words, clean engines sold earlier than required reduces the requirement to sell similar engines later. The emission standards levels must actually be met by qualifying engines to earn the early introduction credit, without use of ABT credits. Therefore, the early introduction engine credit is an alternative to the ABT program in that any early engines or vehicles can earn either the engine credit or the ABT emission credit, but not both. The purpose of the incentive is to encourage introduction of clean technology engines earlier than required in exchange for added flexibility during the phase-in years.

Any early engine credits earned for a diesel-fueled engine would be predicated on the assurance by the manufacturer that the engine would indeed be fueled with low sulfur diesel fuel in the marketplace. We expect this would occur through selling such

engines into fleet applications, such as municipal maintenance fleets, large construction company fleets, or any such well-managed centrally-fueled fleet. Because obtaining a reliable supply of 15 ppm maximum sulfur diesel fuel prior to the 2011 model year will require some effort by nonroad diesel machine operators, we believe it is necessary and appropriate to provide a greater incentive for early introduction of clean diesel technology. Therefore, we propose to count one early diesel engine as 1.5 diesel engines later. This extra early credit for diesel engines means that fewer clean diesel engines than otherwise would be required may enter the market during the years 2011 and later. But, more importantly, it means that emission reductions would be realized earlier than under our base program. We believe that providing incentives for early emission reductions is a worthwhile goal for this program, because improving air quality is an urgent need in many parts of the country as explained in Section II, and because the early learning opportunity with new technologies can help to ensure a smooth transition to Tier 4 standards. Therefore, we are proposing these provisions for manufacturers willing to make the early investment in cleaner engines.

We are proposing to provide this early introduction credit to diesel engines at or above 25 hp that meet all of today's Tier 4 emissions standards (NO_x, PM, and NMHC) in the applicable power category. We are also providing this early introduction credit to diesel engines that pull-ahead compliance with only the PM standard. However, a PM-only early engine would offset only the "phase-out" engines during the phase-in years (those required to meet the Tier 4 standard for PM but not for NO_x or NMHC); it would not offset engines required to meet the Tier 4 NO_x, NMHC, and PM standards. Tier 4 engines certified to, or required to meet, the 2008 PM standard would not participate in this program, either as credit generators or as credit users.

An important aspect of the early incentive provision is that it must be done on an engine count basis. That is, a diesel engine meeting new standards early would count as 1.5 such diesel engines later. This contrasts with a provision done on an engine percentage basis which would count one percent of diesel engines early as 1.5 percent of diesel engines later. Basing the incentive on an engine count would alleviate any possible influence of fluctuations in engine sales in different model years.

Another important aspect of this proposed program is that it would be limited to engines sold prior to the 2011 model year for engines at or above 175 hp, prior to the 2012 model year for engines between 75 and 175 hp, or prior to the 2013 model year for engines between 25 and 75 hp. In other words, as in the highway program, nonroad diesel engines sold during the transitional "phase-in" model years would not be considered "early" introduction engines and would therefore receive no early introduction

credit. However, such engines and vehicles would still be able to generate ABT credits. As with the phase-in itself, and for the same reasons, we are proposing that an early introduction credit could only be used to offset requirements for engines in the same power category as the credit-generating engine (*see* Section III.B).

As a further incentive to introduce clean engines and vehicles early, we are also proposing a provision that would give manufacturers an early introduction credit equal to two engines during or after the phase-in years. This

"Blue Sky" incentive would apply for diesel engines achieving standards levels at one-half of the proposed long-term NO_x standard while also meeting the NMHC and PM standards. Due to the extremely low emission levels to which these Blue Sky series engines and vehicles would need to certify, we believe that the double engine count credit is appropriate. Table VII.E-1 shows the emission levels that would be required for diesel engines to earn any early introduction credits (other than ABT credits).

TABLE VII.E-1.—PROPOSED PROGRAM FOR EARLY INTRODUCTION OF CLEAN ENGINES AT OR ABOVE 25 HP

Category	Must meet ^a	Per engine credit
Early PM-only ^b	0.01 g/bhp-hr (≥ 75 hp) or PM 0.02 g/bhp-hr PM (< 75 hp) or 0.02 g/bhp-hr PM (< 75 hp).	1.5-to-1 PM-only
Early Engine ^b	above-indicated PM standard + 0.30/0.14 g/bhp-hr NO _x / NMHC (≥ 75 hp) or 3.5 g/bhp-hr NMHC + NO _x (< 75 hp).	1.5-to-1
Blue Sky Series Engine	as above for Early Engine, except must meet 0.15 g/bhp-hr NO _x standard.	2-to-1

Notes:

^aEngines in all 3 categories must also meet the Tier 4 crankcase emissions requirements.

^bEngine count credits must be earned prior to the start of phase-in requirements in applicable power categories (prior to 2103 for 25–75 hp engines).

We welcome comment on these proposed provisions, as well as other ideas for encouraging the introduction of Tier 4 engines early, or of engines cleaner than Tier 4 levels. One area we especially seek comment on is whether or not engines below 25 hp that achieve the proposed long-term Tier 4 PM standard for 25–75 hp engines of 0.02 g/bhp-hr, or engines below 75 hp that achieve the proposed long-term Tier 4 NO_x standard for > 75 hp engines of 0.30 g/bhp-hr, should gain credits under this program that could be used to offset requirements for larger engines, as a means of encouraging the migration of clean technologies to smaller engines.

2. Continuance of the Existing Blue Sky Program

In the 1998 final rule, the Agency established its original Blue Sky Series Engine program for nonroad diesel engines (63 FR 56968; *see* preamble Section III.I). This program encourages the early introduction of engines with emission levels (as measured on a transient test) about 40% lower than the Tier 2 standards levels. Manufacturers could designate these engines as Blue Sky Series engines and sell them for use in state, municipal, or commercial programs calling for these cleaner engines (but not in the ABT program, to avoid double-counting of emission reductions). Because the Agency's direction for the nonroad engine

program was not completely settled at the time, the 1998 final rule limited the Blue Sky program to engines built in the 2004 and earlier model years, but discussed our intent to consider extending it later. This Tier 4 proposal does provide more clarity for the future direction of the nonroad engine program, and so at this time we are asking for comment on extending or revising the existing Blue Sky Series engine program. We believe that the levels set for the existing Blue Sky program are not stringent enough to warrant their continuance into the Tier 4 years, but we also note that the lack of a transient certification test in Tier 3 may make continuance of this program beyond 2004, perhaps through Tier 3 (and Tier 2 for engines under 50 hp), useful. We welcome comment on this, as well as on any experience with the program thus far, plans to use it in the future, whether the standards and test cycle should be changed and, if so, beginning in what model year.

F. Provisions for Other Test and Measurement Changes

This section contains further detail and explanation regarding several related nonroad diesel engine emissions test and measurement provisions. There are five topics which will be discussed: (1) EPA's proposed supplemental nonroad transient test; (2) an additional cold start transient test requirement for

nonroad diesel engines; (3) a provision for control of smoke testing; (4) steady-state testing; (5) maximum test speed; and (6) general improvements to test procedure precision.

1. Supplemental Transient Test

Nonroad diesel engines and equipment for the most part run on a more transient basis than their highway diesel counterparts through operations such as shifting loads, powering auxiliary equipment and performing repetitive tasks. A smaller, but significant, transient segment of nonroad equipment operates in a constant-speed manner for most or all of its useful life as with electrical generating sets, arc welders and the like. However, nonroad test regulations to date have tended to not capture a broad area of real world operating characteristics and the emissions which result from these modes of equipment operation. The Agency believes that it is important to ensure that nonroad engines meet emission standards in-use under typical operating conditions so that the expected benefits of the program will be achieved over the life of the program. The supplemental nonroad diesel engine transient test provisions EPA is proposing are intended to help achieve this goal. Steady-state emission testing of nonroad diesel engines will be retained because it covers types of in-use diesel engine

operation not represented in nonroad diesel transient operation. Steady-state emission testing provides a benchmark as well for simpler test programs, like Selective Enforcement Audits (SEAs).

As explained in section III.C. above, EPA is proposing to supplement its steady-state emission testing in nonroad diesel engines with a transient duty emission test procedure for nonroad diesel engines, the Nonroad Transient Composite (NRTC)³⁰⁷ test cycle. The Agency's NRTC cycle is described in proposed regulations at 40 CFR part 1039. A detailed discussion of the proposed transient test cycle and its derivation is contained in Chapter 4 of the Draft RIA for this proposal. Like current nonroad diesel standards, any new emission standards would apply to certification, Selective Enforcement Audits (SEAs), and equipment in actual use for engines covered by the standards.

EPA's supplemental nonroad transient test will apply to a nonroad diesel engine when that engine must first show compliance with EPA's proposed Tier 4 PM and NO_x+NMHC emissions standards which are based on the performance of the advanced post-combustion emissions control systems (e.g. CDPFs and NO_x adsorbers), with the specific exception of engines under 25 hp for PM and under 75 hp for NO_x. The transient duty cycle would be applicable to Tier 4 phase-in engines, as well as the phase-out engines (as defined in section III.B.1.b of this preamble). However, we are seeking comment on whether the transient test procedure should only be required for the PM standard for phase out engines. The table VII.F.-1 below outlines the dates for implementation of this requirement and notes specific exceptions for phase-in of some engine standards.

TABLE VII.F.-1. IMPLEMENTATION MODEL YEAR FOR NONROAD TRANSIENT TESTING

Power category	Transient test implementation model year ^a
< 25 hp	2013
25 ≤ hp < 75	^b 2013
75 ≤ hp < 175	2012
175 ≤ hp ≤ 750 hp	2011
>750 hp	^c 2011

NOTE:

³⁰⁷ Memoranda to Docket A-2001-28: "Speed and Load Operating Schedule for the Nonroad Transient Composite test cycle" and "NRTC Cycle Construction".

^aWe are taking comment on whether the transient test procedure should only be required for the PM standard for phase out engines under 750 hp and we are seeking comment on not requiring the transient test procedure for carry over engines over 750 hp.

^bThe transient test would apply in 2012 for any engines in the 50-75 hp range that choose not to comply with the proposed 2008 transitional PM standard.

^cBeginning in 2014, when the phase-in has been completed, the transient test would apply to all nonroad engines >750 hp, however we are taking comment on this approach.

While manufacturers of nonroad diesel engines under 75 hp are not subject to the transient test procedure and therefore not required to submit data demonstrating that their engines will meet the Tier 4 nonroad PM emission standard beginning in 2008, it is our expectation that manufacturers, in anticipation of the transient test requirements and in accordance with applicable defeat device prohibitions, would design their engines with effective, in-use control over the expected range of operating conditions, including transients. Given this, we feel this affords a good balance to address workload constraints for these manufacturers as they prepare for addressing Tier 4 compliance. As explained earlier in section III of this preamble, actual submission of transient test data will not be required of engine manufacturers in these power categories until 2013.³⁰⁸ EPA recognizes that the timing of interim standards for these engines could otherwise force manufacturers of smaller engines to have to certify under the proposed NRTC duty cycle test requirement before the requirement applies to the broader market of engine manufacturers in the 2011 to 2013 time frame.

The Agency notes however that some manufacturers have reported difficulties measuring transient PM emissions in 750 hp and over engines under full-flow constant volume sampling (CVS) emission measurement systems. It has been reported that this may be due to difficulties apportioning the large exhaust volumes to sample emissions. Additionally, manufacturers have raised concerns regarding a requirement to conduct transient testing for engines over 750 hp, based on concerns related to facility impacts and sales volumes that are particular for engines over 750 hp. To address the concerns raised, the Agency is taking comment on not requiring the engine manufacturer to conduct transient testing for engines over 750 hp for purposes of certification. Manufacturers would have the option to submit an engineering

³⁰⁸ See Note "b" in Table VII-F-1 above for engines between 25 and 75 hp (19-56 kW).

analysis that demonstrates compliance with the applicable transient standard. This engineering analysis would have to include relevant test data, such as steady state test data, that would support the engineering analysis.

Similarly, PM exhaust emissions gathered from these large engines using partial flow sampling systems (PFSS) tend to be high in volatile PM fractions³⁰⁹ under some low load operating modes. To date, volatile PM measured from PFSS has not been proven to be consistently comparable to volatile PM measured by a full-flow CVS. The pressure across the filter and other sample zone conditions, coupled with differences in the dilution rate and method and residence time, may combine to yield a different PM composition in PFSS than in full-flow CVS systems at these operating conditions. EPA requests comment from manufacturers on the use of PFSS test practices for PM emission data collection in these large displacement engines.

EPA recognizes that there may be practical difficulties with emission testing in large nonroad diesel engines over 750 hp, systems which often have multiple exhaust manifolds and may incorporate several catalysts or other pieces of emission control equipment. Further, the Agency does not intend at this time to require that manufacturers use PFSS to determine PM emissions from their engines for certification. A large engine manufacturer may, however, choose to submit PM data to the Agency using PFSS as an alternative test method, if that manufacturer can demonstrate test equivalency using a paired-T test, as outlined in regulations at 40 CFR 86.1306-07.

EPA is also proposing, as an alternative to the NRTC for a limited class of engines, a Constant Speed Variable Load (CSVL) transient duty cycle. The CSVL transient duty cycle is derived from the EPA's Arc Welder Highly Transient Torque application duty cycle. The CSVL cycle is described in the proposed regulations at 40 CFR 1039.510. Because of the more limited range of engine operation in the CSVL cycle, manufacturers must ensure that engines certified with data generated with this cycle are used exclusively in constant-speed applications. Accordingly, these engines must include labeling information indicating this limited emission certification. An example of engines in this category of

³⁰⁹ Memorandum to Docket "Partial Flow Testing Concerns in Large Nonroad Diesel Engines as Regards Emission Testing Through Partial Flow Sampling", Docket A-2001-28.

nonroad diesel equipment include power generating sets which are very tightly governed for operating speed changes. Other "constant speed" equipment may be less closely regulated for changes in speed such as those that utilize a 3% droop-type of engine speed governor. One might expect that this latter group would more easily pass cycle performance statistics over a constant speed transient test than the more speed change-sensitive former group, represented by electrical generating sets, for example. However, both types of constant speed engines experience some fluctuations in speed and load during operation in-use and the CSVL duty cycle would capture emissions from these infrequent modes of operation, as well.

Transient testing requires consideration of statistical parameters for verifying that test engines adequately follow the prescribed schedule of speed and load values. The proposed regulations in § 1065.530 detail these statistical parameters (or "cycle statistics") for nonroad diesel engines. These values are somewhat different than the comparable values for highway diesel engines to take into account the characteristics of the nonroad composite cycle and the CSVL cycle. Note also that we are proposing to modify certain cycle statistics previously established for nonroad spark-ignition engines. These changes generally allow testing spark-ignition engines in a way that follows the speed and load traces somewhat less precisely than previously established. All of the proposed changes for spark-ignition engines are consistent with the comparable cycle statistics we are proposing for nonroad diesel engines.

While designed to control for a broad range of constant-speed nonroad engines, the Agency's CSVL cycle has an average speed which may be lower than the speed which a manufacturer considers optimal for their engines in-use. Further, EPA recognizes that some constant speed equipment may operate near or at its rated engine rpm during much of that equipment's useful life. As such, EPA is proposing that constant-speed engines tested in the laboratory with installed speed governors be required to meet cycle statistics for engine load, but not for engine speed. This addresses the concern that different engines may have different degrees of engine speed variation and that some engines may be set to operate at speeds slightly different than the defined point of maximum test speed. At the same time, the installed governor forces the test engine to operate in a way that is representative of in-use

operation. This is described further in Chapter 4 of the Draft RIA for this rulemaking.

Engine manufacturers have raised additional concerns about designing constant-speed engines to meet emission standards over the CSVL cycle. These concerns generally focus on the fact that the cycle has relatively light engine loads and is derived from an arc welder powered by a naturally aspirated engine. Manufacturers questioned the representativeness of this cycle for generators, which is a more common application for constant-speed engines. We continue to believe that transient testing of these engines will add assurance that they control emissions under real in-use operation. While the CSVL cycle does not capture the full operating experience of every engine application, we believe that engines designed to this cycle will control emissions effectively under other types of transient operation not specifically included in the certification procedure. Especially given the anticipated emission-control technologies, we believe engines that are capable of meeting emission standards on the CSVL cycle will have the transient-response characteristics that are appropriate for controlling emissions at higher engine loads and for less dynamic transient operation. At the same time, we share engine manufacturers' interest in creating duty cycles that achieve in-use emission reductions without requiring approaches that lead to laboratory improvements unrelated to an engine's in-use operation. We are therefore expecting to continue discussions with engine manufacturers to pursue the possibility of developing a constant-speed transient cycle that addresses these concerns. We request comment on the extent to which the CSVL cycle will pose design burdens or constraints unrelated to improving in-use emission control.

EPA recently adopted a similar transient duty cycle for spark-ignition constant-speed engines (67 FR 68242, 68298–99, November 8, 2002). This duty cycle, which is based on the same underlying engine operation of an arc welder powered by a diesel engine, includes a combination of equal parts typical and high-transient operation. There was no effort to modify the schedule of engine operation to make it more representative of spark-ignition engines, so the expectation was that the same cycle would eventually apply to nonroad diesel engines. Aside from the different selection of engine operation from the available operating welder described above, the proposed constant-

speed transient cycle includes several adjustments that would need to be factored into the "spark-ignition" cycle before it could be applied to nonroad diesel engines. These adjustments include renormalization with a more robust engine map (based on updated specifications of the original engine) and "I-alpha" corrections to synchronize measurements made with and without a flywheel (see Section 4.2.8.1 of the Draft RIA). EPA requests comment on whether the previously adopted constant-speed transient cycle (in modified form) should apply equally to nonroad diesel engines. Conversely, if EPA adopts the proposed constant-speed transient cycle for nonroad diesel engines, we would expect to change the regulations for spark-ignition engines to align with the conclusions in this rulemaking. EPA accordingly requests comment on these same issues as they relate to spark-ignition engines.

EPA is proposing an optional test cycle specifically for engines used in transport refrigeration units (TRUs). These engines would be certified to a four-mode steady-state duty cycle, developed by the California-EPA Air Resources Board.³¹⁰ Two modes would be run at the engine's maximum test speed, one mode at 50% of observed engine torque and the other mode at 75% of observed engine torque. The third and fourth modes would be run at the engine's intermediate test speed and, again, one mode would be run at 50% of observed engine torque and the other mode at 75% of observed engine torque. All four modes would be weighted equally in determining an operating mode's contribution to the engine's emissions.

Manufacturers certifying engines to the TRU cycle would need to state on the emission control label that the engines may only be used in TRUs, provide installation instructions to ensure they will operate only in the modes covered by the test cycle, and keep records on delivery destinations for these engines. Although these engines would not be subject to a transient duty cycle, they would be subject to not-to-exceed standards based on any normal operation that they might experience in the field. Manufacturers of these engines may petition EPA at certification for a waiver of the requirement to provide smoke emission data for their constant-torque engines. We request comment on whether different modes, or different weighting

³¹⁰ Information on the proposed TRU cycle may be found on the California ARB Web site at <http://www.arb.ca.gov/diesel/dieselrrp.htm>.

factors, would be more appropriate for characterizing TRU emissions.

2. Cold Start Testing

EPA is proposing to include a requirement for a cold start transient test to be run in conjunction with the Agency's proposed nonroad diesel engine transient test. While EPA does not have available a database of emission information to characterize cold start emissions from all power categories of nonroad diesel engines, EPA has been able to analyze the second-by-second in-use operation of some forty pieces of Tier 1 and older nonroad equipment. Using a subset of equipment from this study, the Agency characterized the "average" workday of each piece of equipment in the data set³¹¹ and attempted to define the role "cold start" operation, generally characterized by lower exhaust temperatures and higher-than-idle engine speeds, played in engine emissions. Generally, the Agency found that times when the engine was operating at cold start, higher engine emission rates were seen than during normal, temperature-stabilized operation of the engine. These cold start, or "warming-up", periods were seen to last on average ten minutes after equipment key-on for the units in our study.

The Agency found, that over an eight to ten hour workday, a piece of nonroad equipment would spend between 25 and 35 percent of its in-use day running in idle operation at a relatively low rate of emission output. With downtime on the equipment for operator lunch times and equipment transport, there could be a further period of an hour or more of low to no emissions from the equipment in-use. At first key-on of the workday, and with each additional "key-on" cold start event during the day, the equipment experiences a period of higher emissions until it reaches a stabilized operating temperature. Start-up of the equipment after a period of downtime which lasted an hour or more was generally seen to experience rates of engine emissions similar to those seen at first key-on, or cold start, and were considered periods of cold start emissions, as well. The total time the equipment in the study spent at these higher rates of "cold start" engine emissions could be estimated to generate approximately one-tenth of the engine emissions that the equipment would be expected to produce over the

whole workday. Therefore, EPA proposes to weight the emission test results from its additional cold start transient test requirement as one tenth of the composite transient emission test results for a particular engine. The Agency requests comments as to the robustness of this weighting factor and as to its applicability across the spectrum of nonroad diesel equipment.

In addition, EPA requests comment on the potential to apply an approach adopted for commercial spark-ignition engines, in which engines operate over a single "warm-start" cycle (67 FR 68298, November 8, 2002; see 40 CFR 1048.510), to nonroad diesel engines. The regulations for these spark-ignition engines address cold-start emissions indirectly through a combination of provisions. First, the warm-up period before emission measurement can start is limited to three minutes of operation. As a result, any engine operation after this three-minute period is fully accounted for by emission measurements. Second, the regulations direct manufacturers to design their emission-control systems to start working as soon as possible after engine starting and to describe in their application for certification how their engines meet this objective. For engines that take advantage of the period of unmeasured emissions with a design that has unnecessarily high emissions, we can consider this a defeat device and deny certification. Manufacturers therefore need to take steps to design their engines and any emission-control equipment to control emissions during the warm-up period without the additional effort of supplemental cold-start testing. EPA requests comment on whether this approach would be appropriate for nonroad diesel engines. In particular, we request comment on how long the warm-up period prior to start of emissions measurement should be for diesel engines. The three-minute warm-up period specified for these spark-ignition engines reflects the time needed for their catalysts to start working. The emission-control technologies anticipated for diesel engines under this proposal would need additional time, perhaps 10 minutes, before they achieved nearly full effectiveness in controlling diesel emissions. Any comments regarding this approach should address how the changed procedure would affect measured emission levels and how the emission standard should be adjusted to reflect these changes.

3. Control of Smoke

Manufacturers are currently responsible for testing and reporting

results for nonroad "peak acceleration" and "lugging" smoke emissions. These regulations are detailed in 40 CFR 89.113³¹² and refer the reader back to 40 CFR 86, subpart I, which was developed for highway engines. This rulemaking however proposes to replace the present Federal Smoke Procedure for nonroad engines with the ISO 8178 Part 9 nonroad smoke procedure as the method and standards by which engine manufacturers will certify their nonroad engines. This new smoke testing procedure with its related smoke standards will become effective for a particular engine when that engine is certified to EPA's proposed Tier 4 or transition PM and NO_x-NMHC standards. Proposed regulations may be found at 40 CFR part 1039.

The ISO-TC70/SC8/WG1 committee developed a nonroad smoke test procedure, ISO 8178-9 and finalized it on October 15, 2000. Recognizing the value of harmonized test procedures and limit standards, EPA is proposing through this rulemaking to use ISO 8178-9 for smoke testing of nonroad diesel engines. EPA has analyzed ISO 8178-9 and concluded that it is appropriate for adoption within the Agency's nonroad test procedures. It is important to note that the ISO 8178-9 smoke emissions test procedure is very different from the procedure specified in Subpart I of Part 86. As a consequence, in adopting the ISO 8178-9 procedure, EPA proposes to revise the numerical limit value associated with this ISO procedure. EPA proposes that the appropriate (maximum) numerical standard for ISO 8178-9 peak (acceleration) smoke value measurement will be 20 percent opacity, peak smoke values at 3x, 6x, and 9x will be 18 percent opacity, 16 percent opacity and 14 percent opacity, respectively, and the lug smoke value will be 10 percent opacity. The Agency has determined this value on review of data from smoke tests on various engines³¹³ across differing programs and requests comment as to the appropriateness of these particular limit values.

Some state governments have expressed a desire for a federal smoke regulatory program that would enable

³¹² Smoke testing guidelines are detailed under ISO 8178-9, First Ed. 10-15-2000, "Reciprocating internal combustion engines-Exhaust emission measurement-Part 9: Test cycles and test procedures for test bed measurement of exhaust gas smoke emissions from compression ignition engines operating under transient conditions". A copy of the testing procedure may be found for reference only in Docket A-2001-28.

³¹³ "Nonroad Diesel Engine Smoke Testing and Limited Filter Analysis" May, 2001. Final Report to Engine Manufacturers Association from Southwest Research Institute. Docket A-2001-28

³¹¹ Memorandum to Docket, "Analysis of Second-by-Second Emission and Activity Data for a Private Rental Fleet of Construction Equipment" Docket A-2001-28.

them to test in-use nonroad engines in a manner that would permit action against gross emitters of smoke. In a like manner, EPA could propose additional smoke testing regulations as part of any future rulemaking which would address manufacturer's in-use smoke test requirements. The main elements of any in-use smoke program would be a new Federal smoke standard(s) and test procedure for new engines, guidance from EPA for state in-use smoke control programs (including a full smoke test procedure and accompanying state limit values), and a means by which the data from the two programs could be related. The current smoke test procedure from Part 86, Subpart I does not provide data comparable to the most practical in-use smoke test procedure, a snap-idle acceleration test with measured opacity. However, based on the current ISO 8178-9 procedure, EPA believes data from an ISO 8178-9 certification smoke test could provide the desired link.

In applying nonroad smoke standards and procedures to engines rated 50 hp and under, EPA has chosen to exempt one-cylinder engines, the large majority of which are being used in generator sets and other constant-speed applications, from the smoke standards. EPA still believes that testing of these engines is unique in ways that would need to be addressed before requiring smoke standards and testing for this class of engines. These engines tend to produce puffs of smoke that may make the smoke measurement erratic. The Agency believes the air quality impact

of this decision will be minimal. EPA expects to reconsider this issue in the future in relation to other in-use testing concerns.

Finally, the Agency proposes to exempt from smoke standards those nonroad diesel engines which have certified PM emission levels or Family Emission Limits (FELs) below 0.05 g/hp-hr. The Agency believes that engines meeting an FEL below 0.05 g/hp-hr would utilize control technology, such as particulate traps, that would provide adequate smoke control.

4. Steady-State Testing

Recognizing the variety of both power classes and work applications to be found within the nonroad vehicle and engine population, EPA will retain current Federal steady-state test procedures for nonroad engines. The steady state duty cycle applicable in each of the following categories: 1) nonroad engines 25 hp and greater; 2) nonroad engines less than 25 hp; and 3) nonroad engines having constant-speed, variable-load applications, (e.g., generator sets) as set out in Table VII.F-2. The steady-state cycles remain, respectively, the 8-mode cycle, the 6-mode cycle and the 5-mode cycle.³¹⁴ We envision manufacturers that satisfy the requirements to certify on the steady state ISO 8178-D2 duty cycle might likewise satisfy the requirements to test over the Constant Speed Variable Load Duty Cycle (CSVL). Manufacturers will be required to meet emission standards under steady-state conditions, in

addition to meeting emission standards under the proposed supplemental transient test cycle. Steady-state test cycles are needed so that testing for certification will reflect the broad range of operating conditions experienced by these engines. A steady-state test cycle represents an important type of modern engine operation, in power and speed ranges that are typical in-use. The mid-to-high speeds and loads represented by present steady-state testing requirements are the speeds and loads at which these engines are designed to operate for extended periods for maximum efficiency and durability. Details concerning the three steady-state procedures for nonroad engines and equipment can be found in proposed regulations at proposed 40 CFR 1039.510 and in the three appendices which follow that section, one for each cycle.

Manufacturers would perform each steady-state test following all applicable test procedures in proposed regulations at proposed 40 CFR part 1039, e.g., procedures for engine warm-up and exhaust emissions measurement. We are proposing that the testing must be conducted with all emission-related engine control variables in the maximum NO_x-producing condition which could be encountered for a 30 second or longer averaging period at a given test point. Table VII.F.-2 below summarizes the steady-state testing requirements by individual engine power categories.

TABLE VII.F-2.—SUMMARY OF STEADY-STATE TEST REQUIREMENTS

Nonroad engine power classes	Steady-state testing requirements		
	8-Mode cycle (ISO 8178-4 C1)	6-Mode cycle (ISO 8178-4 G3)	5-Mode cycle (ISO 8178-4 D2)
hp < 25 (kW < 19)	NA ^a	applies	applies ^b .
25 ≤ hp < 75 (19 ≤ kW < 56)	applies	NA ^a	applies ^b .
75 ≤ hp < 175 (56 ≤ kW < 130)	applies	NA ^a	applies ^b .
175 ≤ hp ≤ 750 (130 ≤ kW ≤ 560)	applies	NA ^a	applies ^b .
hp > 750 (kW > 560)	applies	NA ^a	applies ^b .

^a Testing procedure not applicable to this class of engines.

^b For constant, or nearly constant, speed engines and equipment with variable, or intermittent, load.

5. Maximum Test Speed

We are proposing to make a slight change to how test cycles are specified. We are proposing to apply the existing definition of maximum test speed in part 1065 to nonroad CI engines. This definition of maximum test speed is the single point on an engine's normalized maximum power versus speed curve that lies farthest away from the zero-

power, zero-speed point. This is intended to ensure that the maximum speed of the test is representative of actual engine operating characteristics and is not improperly used to influence the parameters under which their engines are certified. In establishing this definition of maximum test speed, it was our intent to specify the highest speed at which the engine is likely to be

operated in use. Under normal circumstances this maximum test speed should be close to the speed at which peak power is achieved. However, in past discussions, some manufacturers have indicated that it is possible for the maximum test speed to be unrepresentative of in-use operation. Since we were aware of this potential during the original development of this

³¹⁴ The three proposed steady-state test cycles are similar to test cycles found in the International

Standard ISO 8178-4:1996 (E) and remain

consistent with the existing 40 CFR part 89 steady state duty cycles.

definition, we included provisions to address issues such as these. Part 1065 allows EPA to modify test procedures in situations where the specified test procedures would otherwise be unrepresentative of in-use operation. Thus, in cases in which the definition of maximum test speed resulted in an engine speed that was not expected to occur with in-use engines, we would work with the manufacturers to determine the maximum speed that would be expected to occur in-use.

6. Improvements to the Test Procedures

We are proposing changes to the test procedures to improve the precision of emission measurements. These changes address the potential effect of measurement precision on the feasibility of the standards. It is important to note that these changes are not intended to bias results high or low, but only to improve the precision of the measurements. Based on our experience with these modified test procedures, and our discussions with manufacturers about their experiences, we are confident that these changes will not affect the stringency of the standards. These changes are summarized briefly here, and the rationale for the changes affecting Constant Volume Sampling (CVS) and PM testing are summarized in a memo to the docket (Air Docket A-99-06, IV-B-11), which was originally submitted in support of the recent highway heavy-duty diesel engine rule (66 FR 5001, January 18, 2001). The rationale for any other changes are summarized in a memo to the docket for this proposal.

Many of the changes are to the PM sampling procedures. The PM procedures will be the same as those finalized as part of the highway heavy-duty diesel engine rule (66 FR 5001, January 18, 2001). These include changes to the type of PM filters that are used and improvements in how PM filters are weighed before and after emission measurements, including requirements for more precise microbalances.

Another area includes changes to the CVS dilution air and flow measurement specifications to allow for lower dilution ratios. These changes are also the same as those changes finalized in the highway rule.

Another area of change is the NO_x calibration procedure. These changes are also the same as those changes finalized in the highway rule. The new calibration procedures will result in more precise continuous measurement of very low concentrations of NO_x.

Other changes are being proposed to allow for other measurement options,

including the complete or partial adoption of the International Standards Organization's test procedures as specified in ISO 8178-1 (2002-2003 revision) and ISO 8178-11 DIS. EPA has participated in draft changes to these procedures and feels that adopting these procedures, at least in part, would not only allow for the use of the most technically correct procedures, but would also improve harmonization with international standards, which might offer cost savings for some manufacturers. EPA requests comments on the appropriateness of adopting parts of or all of ISO 8178-1 (2002-2003 revision) and ISO 8178-11 DIS.

If finalized, manufacturers would be allowed to use the new procedures immediately for all certifications of all engines (*i.e.* to certify any nonroad engine, not just Tier 4 engines), and manufacturers will also be able to use their current procedures up to a certain transition date to allow for a gradual transition to the new procedures. The reason for this is that some of these changes may not be convenient or cost-effective in the short term, and manufacturers may be willing to live with some slightly lower measurement precision in order to lower short-term testing costs. We believe, though, that manufacturers should be able to individually optimize their test facilities in this manner. In addition, it is important for manufacturers to understand that we will conduct our confirmatory testing in the manner specified in these regulations.

We are also proposing a new regulatory provision that specifies the steps that someone would need to follow to demonstrate that their own alternate measurement procedure is as good as or better than the procedure specified by our regulations. This provision will be the same as that finalized for highway testing, which can be found in 40 CFR 86.1306-07. The proposed test procedure changes just discussed can be found in 40 CFR Part 1065 of the proposed regulations.

G. Not-To-Exceed Requirements

EPA is proposing to adopt not-to-exceed (NTE) emission standards for new non-road diesel engines which are similar to those the Agency set for highway heavy-duty diesel engines. Specifically, the Agency proposes to adopt for non-road diesel engines NTE specifications similar to those finalized as part of the heavy-duty highway diesel engine rulemaking. These specifications are currently published in 40 CFR 86.007-11 and 40 CFR 86.1370-2007.

NTE standards are set as multipliers of FTP standards, therefore, the NTE

standards are also set as emissions mass per unit work performed (*i.e.* brake-specific, g/kW-hr). EPA proposes that non-road NTE standards be applicable to NO_x, CO, THC, and PM mass emissions from the engines subject to this proposed rule. These standards are evaluated against EPA-prescribed procedures for conducting in-use testing. Such tests may be conducted in an engine or chassis dynamometer laboratory, or they may be conducted on a piece of non-road equipment operating normally in-use by using EPA-prescribed field-testing procedures.

For new nonroad diesel engines, EPA proposes that manufacturers state in their application for certification that they are able to meet the NTE standards under all conditions that may reasonably be expected to occur in normal equipment operation and use. Manufacturers will have to maintain a detailed description of any testing, engineering analysis, and other information that forms the basis for their statement. This information may include a variety of steady-state emission measurements not included in the prescribed emission testing duty cycles. It may also include a continuous trace showing how emissions vary during the transient test or operation manufacturers believe are representative of the way their engines normally operate in the field. This data may also consist of field testing data. Any of the aforementioned data may be analyzed using the NTE data reduction procedures proposed in this regulation; with the final emissions data set then compared to the appropriate NTE standards.

EPA requests comment on an alternative NTE specification that differs from the highway NTE specification. If adopted, this would be the sole NTE test procedure for Tier 4 nonroad diesel engines. The alternative utilizes all engine operation to determine compliance. Other differences in its data reduction procedures would eliminate the need for measuring engine torque for the alternative NTE, which can be particularly difficult on-board nonroad vehicles. These alternative procedures would also eliminate the need for an absolute exhaust flow measurement for these engines by relying on a signal linearly proportional to standard exhaust flow. This alternative approach would address some concerns of the ease of practical in-use implementation of NTE testing. For more detailed information on EPA's NTE provisions, refer to Chapter 4.3 of the draft RIA for this proposal.

H. Certification Fuel

It is well-established that measured emissions may be affected by the properties of the fuel used during the test. For this reason, we have historically specified allowable ranges for test fuel properties such as cetane and sulfur content. These specifications are intended to represent most typical fuels that are commercially available in use. This helps to ensure that the emissions reductions expected from the standards occur in use as well as during emissions testing. Because we are proposing to lower the upper limit for in-use nonroad diesel fuel sulfur content to 500 ppm in 2007, and again to 15 ppm in 2010, we are also proposing to establish new ranges of allowable sulfur content for testing. These are proposed to be 300 to 500 ppm (by weight) for model year 2008 to 2010 engines, and 7 to 15 ppm (by weight) for 2011 and later model year engines. We believe that these ranges best correspond to the fuels that diesel machines will potentially see in use. (See 66 FR 5112–5113 where we adopted a similar approach to certification fuels for highway HDDEs.) These specifications will apply to emission testing conducted for certification, selective enforcement audits, in-use, and NTE testing, as well as any other laboratory engine testing for compliance purposes for engines in the designated model years. Any compliance testing of previous model year engines will be done with the fuels designated in our regulations for those model years. Note that we are allowing certification with fuel meeting the 7 to 15 ppm sulfur specification in 2010 for under 11 hp, air-cooled, hand-startable, DI engines certified under the proposed optional standard provision discussed in Section III.B.1.d.i.

It is important to note that while these specifications include the maximum sulfur level allowed for in-use fuel, we believe that it is generally appropriate to test using the most typical fuels. As for highway fuel, we expect that, under the 15 ppm maximum sulfur requirement, refineries will typically produce diesel fuel with about 7 ppm sulfur, and that the fuel could have slightly higher sulfur levels after distribution. Thus, we expect that we would use fuel having a sulfur content between 7 and 10 ppm sulfur for our emission testing. This is the same as the range we indicated would be used for HDDE engine testing in model year 2007 and later (66 FR 5002); and as with the highway fuel, should we determine that the typical in-use nonroad diesel fuel has significantly

more sulfur than this, we would adjust this target upward.

We are also proposing two options for early use of the new 7 to 15 ppm diesel test fuel. The first would be available beginning in the 2007 model year for engines employing sulfur-sensitive technology. (Model year 2007 coincides approximately with the introduction of 15 ppm highway fuel.) This allowance to use the new fuel in model years before 2011 would only be available for engines which the manufacturer demonstrates will be operated in use on fuel with 15 ppm sulfur or less. Any testing that we perform on these engines would also use fuel meeting this lower sulfur specification. This optional certification fuel provision is intended to encourage the introduction of low-emission diesel technologies in the nonroad sector. These engines will be able to use the lower sulfur fuel throughout their operating life, given the early availability of this fuel under the highway program, and the assured availability of this fuel for nonroad engines by mid-2010.

Considering that our proposed Tier 4 program would subject engines under 75 hp to new emission standards in 2008 when 15 ppm maximum sulfur fuel will be readily available from highway fuel pumps (and will enter the nonroad fuel market shortly after in 2010), we believe it is appropriate to provide a second, less prescriptive, option for use of 15 ppm sulfur certification fuel. This option would be available to any manufacturers willing to take extra steps to encourage the use of this fuel before it is required in the field. We are proposing to allow the early use of 15 ppm certification fuel for 2008–2010 engines under 75 hp, provided the certifying manufacturer ensures that ultimate purchasers of equipment using these engines are informed that the use of fuel meeting the 15 ppm specification is recommended, and also recommends to equipment manufacturers buying these engines that labels be applied at the fuel inlet to remind users of this recommendation. This option would not apply to those 50–75 hp engines not being certified to the 0.22 g/bhp-hr PM standard, under the manufacturers' option discussed in Section III.B.1.a. Comment is request on whether or not application of this label should be mandatory for the equipment manufacturers, and on whether the engine manufacturers should supply the labels.

We believe that there may be a very small loss of emissions benefit from any of these engines for which the operator chooses to ignore the recommendation.

This is because the engine manufacturer will be designing the engine to comply with the emissions standards when tested using 15 ppm fuel, potentially resulting in slightly higher emissions when it is not operated on the 15 ppm fuel. We also believe, however, that this is more than offset overall by the encouragement this provision provides for early use of 15 ppm fuel. We are not proposing that this option be available for engine designs employing oxidation catalysts or other sulfur-sensitive exhaust emission control devices except under the more restrictive provision for early use of 15 ppm fuel described above, involving a demonstration by the manufacturer that the fuel will indeed be used. Because these devices could potentially have very high sulfur-to-sulfate conversion rates, and because very high-sulfur fuels will still be available to some extent, we believe that allowing this provision for these engines would risk very high PM emissions until the 15 ppm nonroad fuel is introduced. Comment is requested on whether or not we should deal with early use of 15 ppm test fuel to certify catalyst-equipped engines in some other way, such as through a weighted-average emissions criterion using results from testing on both higher- and lower-sulfur fuels. We are also not proposing to make this second early 15 ppm test fuel option available for engines not subject to a new Tier 4 standard in 2008 as these engines should already be designed to meet applicable standards in earlier years without need for the 15 ppm fuel.

We are also proposing a similar provision for use of certification fuel meeting the proposed 300–500 ppm sulfur specification before the 2008 model year. We believe certification of model year 2006 and 2007 engines being designed to meet new Tier 2 or Tier 3 emission standards taking effect in those years (2006 for engines at or above 175 hp and 2007 for 100–175 hp engines) should be able to use this fuel, provided the certifying manufacturer is willing to take measures equivalent to those discussed above to encourage the early use of this fuel (a recommendation to the ultimate purchaser to use fuel with 500 ppm maximum sulfur and a recommendation to equipment manufacturers to so label their equipment). We also request comment as above on whether the labeling should be mandatory. The widespread availability of 500 ppm sulfur highway fuel, the short time that these 2006 and 2007 engines could use higher sulfur fuels if an operator were to ignore the recommendation, and the eventual use

of 15 ppm sulfur fuel in most of these engines for most of their operating lives, gives us confidence that this provision to encourage early use of lower sulfur fuel would be beneficial to the environment overall. As with the proposed change to 300–500 ppm cert fuel for model years 2008–2010, engine manufacturers would design their engines to comply based on the test fuel specifications for certification and compliance testing. The change from a fuel specification for compliance testing that ranges up to 2000 ppm sulfur for Tier 2 and 3 engines to a specification of 500 ppm sulfur maximum could have some limited effect on the emissions control designs used on these Tier 2 and 3 engines, in that it would be slightly easier to meet the Tier 2 and 3 standards using the lower sulfur test fuel. In general, it is reasonable to set specifications of test fuel reflecting representative in-use fuels, and here the engines are expected to be using fuel with sulfur levels of 500 ppm or lower until 2010, and 15 ppm or lower after that. In this case, any impact on expected engine emissions from this change in test fuel for Tier 2 and 3 is expected to be slight.

We note that under current regulations manufacturers are already allowed to conduct testing with certification fuel sulfur levels as low as 300 ppm. The additional proposed provision for early use of 300–500 ppm sulfur test fuel would, however, result in any compliance testing conducted by the Agency being done with fuel meeting the 300–500 ppm specification. Likewise choice of the option for early use of 15 ppm sulfur test fuel would result in any Agency testing being done using that fuel. However, under both of these early certification fuel options involving a recommended fuel use provision, the Agency would not reject engines from in-use testing for which there was evidence or suspicion that the engine had been fueled at some time with higher sulfur fuel.

Finally, we are proposing to extend a provision adopted in the 1998 final rule. In that rule we set a 2000 ppm upper limit on the test fuel sulfur concentration for any testing to be performed by the Agency on Tier 1 engines under 50 hp and Tier 2 engines at or above 50 hp. We did not extend this provision to later model year engines at that time because we felt that more time was needed to assess trends in fuel sulfur levels for fuels used in nonroad diesels. At this time we are not aware of any additional information that would indicate that a change in this test specification is warranted. More importantly, because the fuel regulation

we are proposing would make 500 ppm maximum sulfur nonroad diesel fuel available by mid-2007, Tier 3 engines at or above 50 hp (which phase in beginning in 2006) will be in the field for only 1½ years prior to the in-use introduction of 500 ppm fuel, and Tier 2 engines under 50 hp (which phase in beginning in 2004) will be in the field for at most 3½ years prior to this time. We believe it is appropriate to avoid adding the unnecessary complication of frequent multiple changes to the test fuel specification. We are therefore proposing to extend the 2000 ppm limit to testing conducted on engines until the 2008 model year when the 500 ppm maximum test fuel sulfur level takes effect as discussed above.

I. Labeling and Notification Requirements

As explained in Section III, the emissions standards contained in the proposed regulations would make it necessary for manufacturers to employ exhaust emission control devices that require very low-sulfur fuel (less than 15 ppm) to ensure proper operation. This action therefore proposes to restrict the sulfur content of diesel fuel used in these engines. However, the 2008 emissions standards would be achievable with less sensitive technologies and thus it could be appropriate for those engines to use diesel fuel with up to 500 ppm sulfur. There could be situations in which vehicles requiring either 15 ppm fuel or 500 ppm may be accidentally or purposely misfueled with higher-sulfur fuel. Any of these misfueling events could seriously degrade the emission performance of sulfur-sensitive exhaust emission control devices, or perhaps destroy their functionality altogether.

In the highway rule we adopted a requirement that heavy-duty vehicle manufacturers notify each purchaser that the vehicle must be fueled only with the applicable low-sulfur diesel fuel. We also required that diesel vehicles be equipped by the manufacturer with labels near the refueling inlet to indicate that low sulfur fuel is required.³¹⁵ We are proposing similar requirements here. Specifically, we are proposing that manufacturers notify each purchaser that the nonroad engine must be fueled only with the applicable low-sulfur diesel fuel, and ensure that the equipment is labeled near the refueling inlet to indicate that low sulfur fuel is

required. We believe that these measures would help owners find and use the correct fuel and would be sufficient to address misfueling concerns. Thus, more costly provisions, such as fuel inlet restrictors, should not be necessary.

Beginning in model year 2011, the required fuel would be 15 ppm. For these engines, the label should state: “ULTRA LOW-SULFUR NONROAD DIESEL FUEL OR ON-HIGHWAY DIESEL FUEL ONLY (15 parts per million)”. For model years 2008 to 2010, when the proposed test fuel would contain 300 to 500 ppm sulfur, the label should state: “LOW-SULFUR NONROAD DIESEL FUEL, ULTRA LOW-SULFUR NONROAD DIESEL FUEL, OR ON-HIGHWAY DIESEL FUEL ONLY (500 ppm maximum)”. Engine manufacturers may choose during earlier model years to certify engines using test fuel with sulfur levels between 500 and 2,000 ppm. We would not require that these engines be labeled.

This approach would ensure that the proper functioning of the emission controls is not compromised by misfueling, while allowing owners flexibility with respect to in-use fuels in those cases in which their engines do not use sulfur-sensitive technologies.

For non-integrated manufacturers, the engine manufacturer will be required to provide such a label to the equipment manufacturer, which the equipment manufacturer will be required to install. Optionally, if an equipment manufacturer chooses to install its own label, the engine manufacturer will not be required to provide the label.

J. Temporary In-Use Compliance Margins

The Tier 4 standards will be challenging for diesel engine manufacturers to achieve, and will require manufacturers to develop and adapt new technologies for a large number and wide variety of engine platforms. Not only will manufacturers be responsible for ensuring that these technologies will allow engines to meet the standards at the time of certification, they will also have to ensure that these technologies continue to be highly effective in a wide range of in-use environments so that their engines would comply in use when tested by EPA. Furthermore, for the first time, these nonroad diesel engines will be subject to a new transient test cycle and NTE standards. However, in the early years of a program that introduces new technology, there are risks of in-use compliance problems that may not appear in the certification process or

³¹⁵ We also required that highway vehicles be labeled on the dashboard. Given the type of equipment using nonroad CI engines, we are proposing equivalent dashboard requirement here.

during developmental testing. Thus, we believe that for a limited number of model years after new standards take effect it is appropriate to adjust the compliance levels for assessing in-use compliance for diesel engines equipped with particulate traps or NO_x adsorbers. This would provide assurance to the manufacturers that they will not face recall if they exceed standards by a small amount during this transition to clean technologies. This approach is very similar to that taken in the light-duty highway Tier 2 final rule (65 FR 6796) and the highway heavy-duty rule (66 FR 5113–5114), both of which

involve similar approaches to introducing the new technologies.

Table VII.J–1 shows the in-use adjustments that we propose to apply. These adjustments would be added to the appropriate FELs (see Section VII.A) or, for engines certified to the standards without the use of credits, to the standards themselves, in determining the in-use compliance level for a given in-use hours accumulation. These adjustment levels were chosen to be roughly equivalent to the temporary in-use standard adjustments adopted for the heavy-duty highway program. Note also the limiting of these adjustments to engines certified to FELs below certain threshold levels. This is similar to the

approach taken in the heavy-duty rule which applied the in-use standards only to vehicles using advanced low-emission technologies (see 66 FR 5113–5114). Our intent is that these add-on levels be available only for highly-effective advanced technologies such as particulate traps and NO_x adsorbers. As in our other mobile source programs, we do not believe that the standards are stringent enough or the required technology change radical enough to warrant add-ons for other proposed standards changes (the NO_x standard for 25–75 hp engines, the 2008 PM standards for engines below 75 hp, or the NMHC standards).

TABLE VII.J–1.—ADD-ON LEVELS USED IN DETERMINING IN-USE STANDARDS

Engine power	Model years	NO _x add-on level to FEL ^a (g/bhp-hr)	PM add-on level to FEL ^b (g/bhp-hr)
25≤ hp <75 (19 ≤ kW < 56)	2013–2014	none.	0.01
75 ≤ hp <175 (56 ≤ kW < 130)	2012–2015	0.10 for operating hours ≤4000	
		0.20 for operating hours >4000	
hp ≥175 (kW ≥130)	2011–2015	0.10 for operating hours ≤4000	
		0.20 for operating hours >4000.	

Notes:

^a Applicable only to those engines with FELs at or below 1.5 g/bhp-hr NO_x.

^b Applicable only to those engines with FELs at or below the Tier 4 PM standard.

Note that these in-use add-on levels apply only to engines certified through the first few model years of the new standards and having FELs below the specified levels. The in-use add-ons are available through model year 2015 for such engines above 75 hp because our proposed implementation schedule does not complete the phase-in process in these power categories until 2014. The 2015 date provides 2 years for the designers of those engine models that are last to be phased in (which may comprise upwards of 50% of sales and a large number of low-volume engine models) to discover and resolve any problems not showing up in the certification process or developmental testing.³¹⁶ This is the same period as that provided in the highway HDDE rule.

During the certification demonstration, manufacturers will still be required to demonstrate compliance with the unadjusted Tier 4 certification standards using deteriorated emission rates. Therefore, the manufacturer will

not be able to use these in-use standards as the design targets for the engine. They will need to project that most engines would meet the standards in-use without adjustment. The in-use adjustments will merely provide some assurance that they would not be forced to recall engines because of some small miscalculation of the expected deterioration rates.

K. Monitoring and Reporting of Emissions Related Defects

We are proposing to apply the defect reporting requirements of § 1068.501 to replace the provisions of 40 CFR part 85 for nonroad engines. The requirements obligate manufacturers to tell us when they learn that emission control systems are defective and to conduct investigations under certain circumstances to determine if an emission-related defect is present. We are also proposing a requirement that manufacturers initiate these investigations when warranty information, parts shipments, and any other information which is available indicates that a defect investigation may be fruitful. For this purpose, we consider defective any part or system that does not function as originally designed for the regulatory useful life of the engine or the scheduled replacement interval specified in the manufacturer's

maintenance instructions. The parts and systems are those covered by the emissions warranty, and listed in Appendix I and II of part 1068.

We believe the investigation requirement proposed in this rule will allow both EPA and the engine manufacturers to fully understand the significance of any unusually high rates of warranty claims and parts replacements for parts or parameters that may have an impact on emissions. We believe that as part of its normal product quality practices prudent engine manufacturers already conduct a thorough investigation when available data indicate recurring parts failures. Such data is valuable and readily available to most manufacturers and, under this proposal it must be considered to determine whether or not there is a possible defect of an emission-related part.

Defect reports submitted in compliance with the current regulations are based on a single threshold applicable to engine families of all production volumes. No affirmative requirement for gathering information about the full extent of the problem was applicable. For very large volume engine families, the proposed approach may result in fewer total defect reports being submitted by manufacturers than the traditional approach because the

³¹⁶ Flexibility provisions such as our ABT program and the incentive program for early or very low emission engines may result in some engines that incorporate the advanced emission control technologies even later. However, we do not believe it is appropriate to adjust the in-use compliance levels for engines on which achieving the standard is delayed by manufacturer's choice, nor did we do so in our highway HDDE program.

number of defects triggering the submission requirement generally rises in proportion to the engine family size. The single threshold in the existing regulations results in reporting of defects in the smallest engine families covered by this regulation very rarely because a relatively high proportion of such engines would have to be known to be defective before reporting is required under a fixed threshold scheme. Therefore, under this proposal, the threshold for reporting for the smallest engine families has been decreased as compared to the current requirements.

We are aware that accumulation of warranty claims and part shipments will likely include many claims and parts that do not represent defects, so we are establishing a relatively high threshold for triggering the manufacturer's responsibility to investigate whether there is, in fact, a real occurrence of an emission-related defect. Manufacturers are not required to count towards the investigation threshold any replacement parts they require to be replaced at specified intervals during the useful life, as specified in the application for certification and maintenance instructions to the owner, because shipment of such parts clearly do not represent defects. All such parts would be excluded from investigation of potential defects and reporting of defects, whether or not any specific part was, in fact, shipped for specified replacement.

This proposal is intended to require manufacturers to use information we would expect them to keep in the normal course of business. We believe in most cases manufacturers would not be required to institute new programs or activities to monitor product quality or performance. A manufacturer that does not keep warranty or replacement part information may ask for our approval to use an alternate defect-reporting methodology that is at least as effective in identifying and tracking potential emissions related defects as the proposed requirements. However, until we approve such a request, the proposed thresholds and procedures continue to apply.

The thresholds for investigation proposed today are 4 percent of total production to date, or 4,000 engines, whichever is less, but never fewer than 40 for any single engine family in one model year. These thresholds are reduced by 50 percent for defects related to any aftertreatment devices, including particulate traps, because these components typically play such a significant role in controlling engine emissions. For example, for an engine

family with a sales volume of 20,000 units in a given model year, the manufacturer would have to investigate potential emission-related defects if there were warranty claims or parts shipments for replacing electronic control units in 800 or more engines; or catalytic converters on 400 or more engines. For an engine family with sales volume of 500 units in a given model year, the manufacturer would have to investigate potential emission-related defects if there were warranty claims or parts shipments of electronic control units in 40 or more engines; or catalytic converters on 20 or more engines. Please note, manufacturers would not investigate for emission related defects until either warranty claims or parts shipments separately reach the investigation threshold. We recognize that a part shipment may ultimately be associated with a particular warranty claim in the manufacturer's database and, therefore, warranty claims and parts shipments would not be aggregated for the purpose of triggering the investigation threshold under this proposal.

In order to carry out an investigation to determine if there is an emission-related defect, manufacturers would have to use available information such as preexisting assessments of warranted parts or other replaced parts. Manufacturers would also have to gather information by assessing previously unexamined parts submitted with warranty claims and replacement parts which are available or become available for examination and analysis. If available parts are deemed too voluminous to conduct a timely investigation, manufacturers would be permitted to employ appropriate statistical analyses of representative data to help draw timely conclusions regarding the existence of a defect. These investigative activities should be summarized in the periodic reports of recently opened or closed investigations as discussed below. It is important to note that EPA does not regard having reached the investigation thresholds as conclusive proof of the existence of a defect, only that initiation of an appropriate investigation is merited to determine whether a defect exists.

The second threshold in this proposal specifies when a manufacturer must report that there is an emission-related defect. This threshold involves a smaller number of engines because each potential defect has been screened to confirm that it is an emission-related defect. In counting engines to compare with the defect-reporting threshold, the manufacturer would consider a single engine family and model year. However,

when a defect report is required, the manufacturer would report all occurrences of the same defect in all engine families and all model years which use the same part. For engines subject to this proposal, the threshold for reporting a defect is 0.25 percent of total production for any single engine family, or 250 defects, whichever is less. The thresholds are reduced 50 percent for reporting defects related to aftertreatment devices. Additionally, this proposal requires a minimum of 5 defects before a report must be filed so that limited isolated parts failures that occur for low volume engine families do not require a defect report. It is important to note that while EPA regards occurrence of the defect threshold as proof of the existence of a reportable defect, it does not regard that occurrence as conclusive proof that recall or other action is merited.

If the number of engines with a specific defect is found to be less than the threshold for submitting a defect report, but information, such as warranty claims or parts shipment data, later indicates additional potentially defective engines, under this proposal the information must be aggregated for the purpose of determining whether the threshold for submitting a defect report has been met. If a manufacturer has actual knowledge from any source that the threshold for submitting a defect report has been met, a defect report would have to be submitted even if the trigger for investigating has not yet been met. For example, if manufacturers receive information from their dealers, technical staff or other field personnel showing conclusively that there is a recurring emission-related defect, they would have to submit a defect report if the submission threshold is reached.

For both the investigation and reporting thresholds, § 1068.501 specifies lower thresholds for very large engines. A defect in these engines can have a much greater impact than defects in smaller engines due to their higher g/hr emission rates and the increased likelihood that such large engines will be used more continuously.

Under this proposal at specified times the manufacturer would also have to report open investigations as well as recently closed investigations that did not require a defect report. We are not proposing a fixed time limit for manufacturers to complete their investigations. The periodic reports required by the regulations, however, will allow us to monitor these investigations and determine if it is necessary or appropriate for us to take further action.

We are requesting comment on this approach, especially with respect to the thresholds. Should we adopt slightly higher thresholds for nonroad engines given their relatively small engine family sizes? Should we focus the defect reporting requirements more on aftertreatment defects since such defects will generally have more significant impacts than other defects? We are also requesting comment on whether these reporting requirements should also apply to the current Tier 2/Tier 3 compliance program, and if so, when these provisions should be applied.

L. Rated Power

We are proposing to add a definition of "maximum engine power" to the regulations. This term would be used instead of previously undefined terms such as "rated power" or "power rating" to specify the applicability of the standards. The addition of this definition is intended to allow for more objective applicability of the standards. More specifically, we are proposing that:

Maximum engine power means the measured maximum brake power output of an engine. The maximum engine power of an engine configuration is the average maximum engine power of the engines within the configuration. The maximum engine power of an engine family is the highest maximum engine power of the engines within the family.

Currently, since rated power and power rating are undefined, they are determined by the engine manufacturer. This makes the applicability of the standards too subjective and confusing. One manufacturer may choose to define rated power as the maximum measured power output, while another may define it as the maximum measured power at a specific engine speed. Using this second approach, an engine's rated power may be somewhat less than the true maximum power output of the engine. Given the importance of engine power in defining which standards an engine must meet and when, we believe that it is critical that a singular power value be determined objectively according to a specific regulatory definition.

We are also adding a clarification to the regulations recognizing that actual engine power will vary to some degree during production. The proposed regulations would require manufacturers to specify a range of actual maximum engine power for each engine configuration. As noted above, we would base the applicability of the standards on the average maximum power of the engines.

M. Hydrocarbon Measurement and Definition

Both the existing standards and the proposed Tier 4 standards apply to nonmethane hydrocarbons, rather than total hydrocarbons. Methane emissions generally are considered to be nonreactive with respect to ozone, and are not regulated under part 89. However, excluding methane requires that it be separately measured, which complicates the measurement procedures. While we are not proposing to change the standards to total hydrocarbons we are requesting comment on the need to measure methane and the appropriateness of excluding it from our standards.

N. Auxiliary Emission Control Devices and Defeat Devices

Existing nonroad regulations prohibit the use of a defeat device (*see* 40 CFR 89.107) in nonroad diesel engines. The defeat device prohibition is intended to ensure that engine manufacturers do not use auxiliary emission control devices (AECD) which sense engine operation in a regulatory test procedure and as a result reduce the emission control effectiveness³¹⁷ of that procedure. In today's notice we are proposing to supplement existing nonroad test procedures with a transient engine test cycle and NTE emission standards with associated test requirements. As such, the Agency believes that a clarification of the existing nonroad diesel engine regulations regarding defeat devices is required in light of these proposed additional emission test requirements. The defeat device prohibition makes it clear that AECDs which reduce the effectiveness of the emission control system are defeat devices, unless one of several conditions is met. One of these conditions is that an AECD which operates under conditions "included in the test procedure"³¹⁸ is not a defeat device. While the existing defeat device definition does contain the term "test procedure", and therefore should be interpreted as including the supplemental testing requirements, we want to make it clear that both the supplemental transient test cycle and

³¹⁷ Auxiliary emission control device is defined at 40 CFR 89.2 as "any element of design that senses temperature, vehicle speed, engine RPM, transmission gear, or any other parameter for the purpose of activating, modulating, delaying or deactivating the operation of any part of the emission control system."

³¹⁸ 40 CFR 89.107(b)(1) states "Defeat device includes any auxiliary emission control device (AECD) that reduces the effectiveness of the emission control system under conditions which may reasonably be expected to be encountered in normal operation and use unless such conditions are included in the test procedure."

NTE emission test procedures are included within the defeat device regulations as conditions under which an operational AECD will not be considered a defeat device. Therefore, we are proposing to clarify the defeat device regulations by specifying the appropriate test procedures (i.e., the existing steady-state procedures and the supplemental tests).

We are also proposing today to provide clarification regarding the engine manufacturers certification reporting requirements with respect to the description of AECDs. The proposed clarification will aid engine manufacturers in preparing a complete application for certification which will allow EPA to review the application in a timely manner. Under the existing nonroad engine regulations, manufacturers are required to provide a generalized description of how the emissions control system operates and a "detailed" description of each AECD installed on the engine (*See* 40 CFR 89.115(d)(2)). This proposal is intended to clarify what is meant by "detailed."

Under the nonroad diesel Tier 1 standards there was limited use of AECDs. AECDs have begun to be much more common with the Tier 2 standards, and we expect this trend to continue. Engines designed to meet the significantly more stringent Tier 4 standards will certainly rely on sophisticated technologies that will likely employ very complex AECDs. We have seen a similar trend with highway heavy-duty diesel engines. In the late 1980's, few highway HDDEs had electronic controls and most manufacturers relied on in-cylinder techniques to control emissions. However, with the application of technologies such as electronically controlled fuel systems, electronically controlled EGR systems, and variable geometry turbochargers, highway HDDEs now have numerous AECDs which are used both for performance as well as emissions control.

A thorough disclosure of the presence and purpose of AECDs is essential in allowing EPA to evaluate the AECD and determine whether it represents a defeat device. Clearly, any AECD which is not fully identified in the manufacturer's application for certification cannot be appropriately evaluated by EPA and therefore cannot be determined to be acceptable by EPA. Our proposed clarifications to the certification application requirements include additional detail specific to those AECDs which the manufacturer believes are necessary to protect the engine or the equipment in which it is installed against damage or accident ("engine

protection'' AECDs). While the definition of a defeat device allows as an exception strategies needed to protect the engine and equipment against damage or accident, we intend to continue our policy of closely reviewing the use of this exception. In evaluating whether a reduction in emissions control effectiveness is needed for engine protection, EPA will closely evaluate the actual technology employed on the engine family, as well as the use and availability of other emission control technologies across the industry, taking into consideration how widespread the use is, including its use in similar engines and similar equipment. While we have specified additional information related to engine protection AECDs in the proposed regulations, we reserve the right to request additional information on a case-by-case basis as necessary.

In the last several years, EPA has issued extensive guidance on the disclosure of AECDs for both highway and nonroad diesel engine manufactures.³¹⁹ This proposal does not impose any new certification burden on engine manufacturers, rather, it clarifies the existing certification application regulations by specifying what type of information manufacturers must submit regarding AECDs.

Finally, we take this opportunity to emphasize that the information submitted must be specific to each engine family. The practice of describing AECDs in a "common" section, wherein the strategies are described in general for all the manufacturer's engines, is acceptable as long as each engine family's application contains specific references to the AECDs in the common section which clearly indicate which AECDs are present on that engine family, and the application contains specific calibration information for that engine family's AECDs. The proposed regulatory requirements can be found at 40 CFR 89.115(d)(2) in today's notice.

We are requesting comment on whether these clarifications should also be applied to the current Tier 2/Tier 3 compliance program, and if so, when these provisions should be applied.

O. Other Issues

We are also proposing other minor changes to the compliance program for Tier 4 nonroad engines. For example, we are proposing that engine manufacturers be required to provide installation instructions to equipment manufacturers to ensure that engine cooling systems, aftertreatment exhaust emission controls, and related sensors are properly installed by the equipment manufacturer. Proper installation of these systems is critical to the emission performance of the equipment. Equipment manufacturers would be expected to follow the instructions to avoid improper installation that could render emission controls inoperative, and subject the equipment manufacturer to penalties for violation of a prohibited act.

Under the existing regulations and the proposed new regulations, engine manufacturers are responsible for all emission-related components, both in terms of emission performance during certification and in-use testing, and emission-related warranties. This requires that engine manufacturers provide their engines with the necessary emission controls before selling them to equipment manufacturers. We are proposing to use the same approach as is used with highway engines, where the engine manufacturer is required to either install catalysts or traps before selling the engine to a vehicle manufacturer, or to ship the catalyst or trap with the engine, with appropriate installation instructions. We are requesting comment on whether this is appropriate for nonroad engines equipped with traps and other aftertreatment exhaust emission controls. We are concerned that allowing engine manufacturers to sell engines without traps included might lead to equipment being introduced into service without the emission controls properly installed. We are requesting comment on whether it is sufficient to require manufacturers to fully describe in their installation instructions all necessary emission control hardware, and whether the engine manufacturer should be held responsible for ensuring the aftertreatment is properly installed, including requiring some management by the engine manufacturers of the installation process, such as auditing the installations and reporting the results to EPA.

In § 89.109, we limit the amount of maintenance that manufacturers can perform during service accumulation. We are proposing to continue these limits in the proposed new § 1039.125. However, we are not carrying over the

provisions of § 89.109(h)(2) (iii) and (iv) that are related to allowances for additional maintenance for engines equipped with onboard diagnostic systems that include visible warning lights. We believe that these provisions would be better addressed in a rulemaking addressing onboard diagnostic standards.

Both the existing regulations and the proposed regulations specify default criteria to define engine family groups, but allow exceptions for cases where other groups would more appropriately represent similar emission characteristics. The proposed regulations specify the same criteria as part 89, plus two new criteria. We are proposing that mechanically controlled engines and electronically controlled engines generally be certified in separate engine families. We are also proposing that engines in different power categories generally must be in separate engine families.

We are proposing to clarify the applicability of the nonroad CI standards to engines operating on alcohols and other oxygenated fuels. As part of this, we are proposing to add a requirement that compression-ignition alcohol-fueled engines be required to comply with the evaporative emission control requirements in 40 CFR 1048.105. That section allows manufacturers to comply with the requirement by incorporating simple emission controls. This requirement is not expected to have a significant impact on manufacturers since we are not aware of any alcohol-fueled nonroad engines currently in production. The proposed provision is merely intended to prevent new emission problem from occurring in the future.

We are proposing to change the way in which manufacturers specify deterioration factors (DFs) for Tier 4 trap-equipped engines. The current regulations specify that the DFs for engines with aftertreatment devices must be multiplicative. They must be expressed as a proportion of the engine's initial emission rate. Manufacturers have indicated in past discussions that, given the general operating mechanism of PM traps and the very low PM levels emitted, trap deterioration is not expected to depend on the initial emission rate, as increased emissions from deterioration that tend to be non-sulfate PM, and therefore not related to the initial emissions rate. Therefore, we are proposing to specify additive DFs for PM that account for a fixed amount of deterioration and are independent of the engine's initial emission rate.

³¹⁹ See EPA Dear Manufacturer Letter VPCD-98-13, "Heavy-duty Diesel Engines Controlled by Onboard Computers: Guidance on Reporting and Evaluating Auxiliary Emission Control Devices and the Defeat Device Prohibition of the Clean Air Act", October 15, 1998 and EPA Advisory Circular 24-3, "Implementation of Requirements Prohibiting Defeat Devices for On-Highway Heavy-Duty Diesel Engines." A copy of both of these documents is available in EPA Air Docket A-2001-28

We are proposing to extend to CI engines that operate on unrefined natural gas the same provisions we have adopted for similar SI engines. Such engines are sometimes used to operate pumps at oil fields where unrefined natural gas is a readily available and inexpensive fuel source. This provision would allow manufacturers greater flexibility with respect to engine adjustment to address variability in fuel properties.

In addition, we are proposing to require that manufacturers label uncertified engines that they import for stationary applications. Because these engines look the same as or very similar to regulated nonroad engines, it can be difficult to distinguish the two without labels. These labels will also help manufacturers and others who import these engines to avoid potential problems with customs inspections.

Another labeling issue relates to the primary emission control information label that engine manufacturers put on every certified engine they produce. The current regulations require equipment manufacturers to put a duplicate label on the equipment if the engine is installed in a way that obscures the label on the engine. We are proposing to clarify this requirement for duplicate labels to ensure that labels are accessible without creating a supply of duplicate labels that are not authentic and used appropriately. Specifically, we are proposing to require engine manufacturers to supply duplicate labels to equipment manufacturers that request them and keep records to show how many labels they supply. Similarly, we are proposing to require equipment manufacturers to request from engine manufacturers a specific number of duplicate labels, with a description of which engine and equipment models are involved and why the duplicate labels are necessary. Equipment manufacturers would need to destroy any excess labels and keep records to show the disposition of all the labels they receive. We request comment on these provisions. In addition, we request comment on an alternative approach to labeling equipment. If equipment manufacturers were required to add a label to each piece of equipment with basic information related to the engine's emission controls, the information would be most accessible in all situations. Such a label would need to at least identify the engine manufacturer, engine family and serial number, manufactured date, power rating, and any important engine specifications. This would make it easier for us to verify that engines are meeting requirements and it would be

easier for U.S. Customs (Bureau of Customs and Border Protection) to clear imported equipment with certified engines. Note that some equipment manufacturers have already been voluntarily attaching such labels or plates to their equipment. We request comment on a uniform requirement to apply labels to equipment using nonroad diesel engines to uniquely identify the installed engine.

We are also clarifying the general requirement that all engines subject to this final rule may not cause or contribute to an unreasonable risk to public health, welfare, or safety, especially with respect to noxious or toxic emissions that may increase as a result of emission-control technologies. The proposed regulatory language, which addresses the same general concept as the existing § 89.106, implements sections 202(a)(4) and 206(a)(3) of the Act and clarifies that the purpose of this requirement is to prevent control technologies that would cause unreasonable risks, rather than to prevent trace emissions of any noxious compounds. This requirement prevents the use of emission-control technologies that produce high levels of pollutants for which we have not set emission standards, but nevertheless pose a risk to the public.

In the part 89 regulations we use the same definition for "aircraft" as is used in 40 CFR part 87. The definition, which is used to exclude aircraft engines from the part 89 regulations, states that aircraft means "any airplane a U.S. airworthiness certificate or equivalent foreign airworthiness certificate has issued." We are proposing to use this same definition for the new part 1039 regulations. We believe that this definition encompasses all vehicles that are capable of sustained air travel above treetop heights using compression ignition engines. We request comment on whether there are any aircraft that do not meet this definition, and use compression-ignition engines, but that should not be regulated under part 1039.

Finally, we are not revising at this time the regulation on preemption of state and local controls currently found in Part 89. This regulation will continue in effect. We are, however, considering whether we should clarify the binding regulatory nature of this language, consistent with the decision of the court in *Engine Manufacturers Association v. EPA*, 88 F.3d 1075 (D.C. Cir. 1996).

VIII. Nonroad Diesel Fuel Program: Compliance and Enforcement Provisions

Section IV above describes the proposed program for the reduction of sulfur in nonroad, locomotive and marine (NRLM) diesel fuel. In general, this proposal would require refiners and importers to meet a 500 ppm sulfur standard for nonroad, locomotive, and marine diesel fuel starting June 1, 2007 and to meet a 15 ppm standard for nonroad diesel fuel beginning June 1, 2010. Locomotive and marine diesel fuel would remain subject to the 500 ppm standard. Among other provisions, Section IV also describes a temporary non-highway distillate baseline percentage method to differentiate volumes of diesel fuel subject to the NRLM standards and volumes of diesel fuel subject to the highway fuel standards; provisions to identify unregulated fuel such as heating oil; provisions for diesel fuel credit generation and use; and special provisions for small refiners, refiners seeking hardship relief, and parties supplying diesel fuel to Alaska and U.S. territories.

As with earlier fuel programs, we have developed a comprehensive set of compliance and enforcement provisions designed to promote effective and efficient implementation of this fuel program and thus to achieve the full environmental potential of the program. The proposed compliance provisions are designed to ensure that nonroad, locomotive, and marine diesel fuel sulfur content requirements are met throughout the distribution system, from the refiner or importer through the end user, subject to certain provisions applicable during the early transition years. Several of these provisions are described in Section IV above, and others are summarized in this section. The full details of all proposed provisions are found in the regulatory language associated with today's notice.

The proposed compliance and enforcement provisions discussed in this section fall into several broad categories:

- Fuel uses covered and not covered under the proposed program;
- Provisions not described in Section IV applicable to refiners and importers;
- Provisions not described in Section IV applicable to parties downstream of the refinery or importer;
- Special provisions regarding additives, kerosene, and the use of motor oil in fuel;
- Fuel testing and sampling requirements;
- Records required to be kept (including those applying under the

small refiner and refiner hardship provisions);

- Reporting requirements;
- Exemptions from the program; and
- Provisions concerning liability,

defenses, and penalties for noncompliance.

A. Fuel Covered and Not Covered by this Proposal

1. Covered Fuel

As discussed in section IV.A.1 above, this proposed standards generally cover all the diesel fuel that is intended or likely to be used in nonroad, locomotive, and marine (NRLM) applications that is not already covered by the standards for highway diesel fuel. For the purposes of this preamble, this fuel is defined primarily by the type of engine which it is used to power: land-based nonroad, locomotive, and marine diesel engines.

2. Special Fuel Provisions and Exemptions

Section IV.A.1 above also describes several types of petroleum distillate that are not covered by this proposal, including jet fuel and heating oil. In addition, the next paragraphs discuss several provisions and exemptions for nonroad diesel fuel that we propose to apply in special circumstances.

a. Fuel Used in Military Applications

We propose to treat NRLM diesel fuel used in military applications in the same manner as the recent highway diesel rule. We propose to define NRLM diesel fuel so that JP-5 and JP-8 military fuel that is used or intended for use in NRLM diesel engines would be subject to all of the requirements applicable to NRLM diesel fuel. However, we also propose to exempt JP-5 and JP-8 fuels from the proposed diesel fuel content and other requirements in certain circumstances. First, these fuels would be exempt if they were used in tactical military equipment that have a national security exemption. Due to national security considerations, EPA's existing regulations allow the military to request and receive national security exemptions (NSE) for their NRLM diesel engines from emissions regulations if the operational requirements for such engines warrant such an exemption. This proposal would not change these provisions. Second, these fuels would also be exempt if they were used in tactical military equipment that is not covered by a national security exemption but for national security reasons, needs to be fueled on the same fuel as motor vehicles or nonroad equipment with a national security

exemption such as the need to be ready for immediate deployment overseas. Use of JP-5 and JP-8 fuel not meeting the proposed NRLM diesel fuel standards in a NRLM diesel engine other than the tactical military equipment described above would be prohibited under today's rule.

EPA and the Department of Defense will develop a process to address the tactical nonroad equipment to be covered by the diesel fuel exemption. Based on data provided by the Department of Defense to date in the context of implementing a similar exemption provision in the highway program, EPA believes that providing an exemption for JP-5 and JP-8 fuel used in tactical nonroad equipment would not have any significant environmental impact.

b. Fuel Used in Research and Development

This proposed rule would permit parties to request an exemption from the sulfur or other standards for NRLM diesel fuel used for research, development and testing purposes ("R & D exemption"). We recognize that there may be legitimate research programs that require the use of diesel fuel with higher sulfur levels than allowed under this proposed rule. As a result, this proposal contains provisions for obtaining an exemption from the prohibitions for persons distributing, transporting, storing, selling, or dispensing NRLM diesel fuel that exceeds the standards, where such diesel fuel is necessary to conduct a research, development, or testing program.

Under the proposed rule, parties seeking an R & D exemption would be required to submit an application for exemption to EPA that describes the purpose and scope of the program, and the reasons why higher-sulfur diesel fuel is necessary. Upon presentation of the required information, an exemption could be granted at the discretion of the Administrator, with the condition that EPA could withdraw the exemption in the event the Agency determines the exemption is not justified. In addition, an exemption based on false or inaccurate information could be considered void ab initio. Fuel subject to an exemption would be exempt from certain provisions of this proposed rule, including the sulfur standards, provided certain requirements are met. These requirements include the segregation of the exempt fuel from non-exempt NRLM and highway diesel fuel, identification of the exempt fuel on product transfer documents, pump labeling, and where appropriate, the replacement, repair, or removal from service of emission

systems damaged by the use of the high sulfur fuel.

c. Fuel Used in Racing Equipment

This proposed rule would provide no exemption from the sulfur or other content standard and other requirements of the proposal for diesel fuel used in racing. Under certain conditions, racing vehicles would not be considered nonroad vehicles. *See*, for example, 40 CFR 89.2, definition of "nonroad vehicle". The fuel used by such racing vehicles would not necessarily be considered nonroad diesel fuel. However, we believe that there is a realistic chance that such fuel also could be used in NRLM equipment, and therefore, should be considered NRLM diesel fuel. During the highway diesel rulemaking, we received no comments supporting the need for an exemption for racing fuel. We are not aware of any advantage for racing vehicles or racing equipment to use fuel having higher sulfur levels than are required by this proposed rule, and we are concerned about the potential for misfueling of nonroad equipment and motor vehicles that could result from having a high sulfur (e.g., 3,400 ppm) fuel for vehicle or nonroad equipment available in the marketplace. Consequently, as was the case with the highway diesel rule, this proposal does not provide an exemption from the nonroad diesel fuel requirements for fuel used in racing vehicles or equipment.

d. Fuel for Export

Fuel produced for export, and that is actually exported for use in a foreign country, would be exempt from the fuel content standards and other requirements of this proposed rule, such as the non-highway baseline provisions. Such fuel would be considered as intended for use in the U.S. and subject to the proposed standards unless it was designated by the refiner as for export only and product transfer documents stated that the fuel was for export only. Fuel intended for export would need to be segregated from all fuel intended for use in the U.S., and distributing or dispensing such fuel for domestic use would be illegal.

B. Additional Requirements for Refiners and Importers

The primary requirements proposed today for refiners and importers are discussed in Section IV above. In that section, we discuss the general structure of the compliance and enforcement provisions applicable to refiners and importers, including fuel content standards, baseline provisions, and credit provisions. In this subsection, we discuss several additional requirements

for refiners and importers that are not addressed in Section IV. In addition, Sections VIII.D, E, and F below discuss several provisions that apply to all parties in the diesel fuel production and distribution system, including refiners and importers.

1. Transfer of Credits

This proposal includes provisions for diesel sulfur credit transfers that are essentially identical to other fuels rules that have credits provisions. As in other fuels rules, nonroad diesel sulfur credits could only be transferred between the refiner or importer generating the credits and the refiner or importer using the credits. If a credit purchaser could not use all the credits it purchased from the refiner who generated them, the credits could be transferred one additional time. We recognize that there is potential for credits to be generated by one party and subsequently purchased and used in good faith by another party, where the credits are later found to have been calculated or created improperly, or otherwise found to be invalid. As with the reformulated gasoline rule, the Tier 2/Gasoline Sulfur rule, and the highway diesel rule, invalid credits purchased in good faith would not be valid for use by the purchaser. To allow such use would not be consistent with the environmental goals of the regulation. In addition, both the seller and purchaser of invalid credits would have to adjust their credit calculations to reflect the proper credits and either party (or both) could be deemed in violation if the adjusted calculations demonstrated noncompliance. The parties to such a credit transaction can be expected to develop contractual provisions to address these circumstances.

Nevertheless, in a situation where invalid credits are transferred, our strong preference would be to hold the credit seller liable for the violation, rather than the credit purchaser. As a general matter we would expect to enforce a shortfall in credit compliance calculations against the credit seller, and we would expect to enforce a compliance shortfall (caused by the good faith purchase of invalid credits) against a good faith purchaser only in cases where we are unable to recover sufficient valid credits from the seller to cover the shortfall. Moreover, in settlement of such cases we would strongly encourage the seller to purchase credits to cover the good faith purchaser's credit shortfall. EPA would consider the covering of a credit deficit through the purchase of valid credits a very important factor in mitigation of any case against a good faith purchaser,

whether the purchase of valid credits is made by the seller or by the purchaser.

2. Additional Provisions for Importers and Foreign Refiners Subject to the Credit Provisions or Hardship Provisions

Since this proposed rule includes several compliance options that could be used by NRLM diesel fuel importers and foreign refiners, we are also proposing specific compliance and enforcement provisions to ensure compliance for imported NRLM diesel fuel. These additional foreign refiner provisions are similar to those under the conventional gasoline regulations, the gasoline sulfur regulations and the highway diesel fuel regulations (see 40 CFR 80.94, 80.410 and 80.620).

Under this proposal, standards for NRLM diesel fuel produced by refineries owned by foreign refiners must be met by the importer, unless the foreign refiner has been approved to produce NRLM diesel fuel under the credit provisions, small refiner provisions or hardship provisions of this proposal. If the foreign refiner is approved under any of these provisions, the volume requirements would be met by the foreign refiner's refinery(s) and the foreign refinery(s) would be the entity(s) generating, using, banking or trading credits for the NRLM diesel fuel produced for and imported into the U.S. We are proposing that importers themselves not be eligible for small refiner or hardship relief. Importers may participate in the proposed credit programs; however, an importer and a foreign refiner may not generate credits for the same fuel.

Any foreign refiner that applies for and obtains approval to produce NRLM diesel fuel subject to credit provisions, small refiner provisions or the hardship provisions would be subject to the same requirements as domestic refiners operating under the same provisions. Additionally, we are proposing provisions for foreign refiners similar to the provisions at 40 CFR 80.94, 80.410, and 80.620, which include:

- Segregation of NRLM diesel fuel produced at the foreign refinery until it reaches the U.S. and separate tracking of volumes imported into each PADD;
- Controls on product designation;
- Load port and port of entry testing; and
- Requirements regarding bonds and sovereign immunity.

These provisions would aid the Agency in tracking NRLM diesel fuel from the foreign refinery to its point of import into this country. We believe these provisions would be necessary and sufficient to ensure that foreign

refiners' compliance could be monitored and that the proposed diesel fuel requirements could be enforced against foreign refiners. For more discussion of the rationale for these enforcement provisions, see preamble to the final Anti-Dumping Foreign Refiners rule (see 62 FR 45533, Aug. 28, 1997) and the gasoline sulfur rule (see 65 FR 6698, February 10, 2000).

3. Proposed Provisions for Transmix Facilities

In the petroleum products distribution system, certain types of interface mixtures in product pipelines cannot be added in any significant quantity to either of the adjoining products that produced the interface. These mixtures are known as "transmix." The pipeline and terminal industry's practice is to transport transmix via truck, pipeline, or barge to a facility with an on-site fractionator that is designed to separate the products. The owner or operator of such a facility is called a "transmix processor." Such entities are generally considered to be a refiner under existing EPA fuel regulations.

Under the non-highway baseline percentage approach proposed in today's diesel rule, absent special treatment transmix processors that wished to commingle highway and NRLM fuel would need to comply with the baseline percentage requirements. Transmix processors, as with conventional refiners, are also currently subject to the "80 percent/20 percent" production requirements for 15 ppm and 500 ppm highway diesel fuel. In both of these cases, producing fuel in set percentages appears to be inconsistent with the inherent nature of the transmix processors' business. Unlike conventional refiners, transmix processors refine shipments of fuel that vary in volume and timing—largely unpredictably. Complying with set percentages of different highway and NRLM sulfur grades would be very difficult, probably resulting in either a need to purchase credits or to postpone processing of some shipments.

In light of this disproportionate burden on transmix processors, we propose that transmix processors could choose to not be covered by both the proposed non-highway baseline provision and the TCO provisions for highway diesel fuel. This would only be an option for diesel fuel produced according to typical operational practices involving separation of transmix and not, for example, diesel fuel produced due to the blending of blend stocks. If the processor chooses not to be covered by these provisions,

then the processor could produce highway or NRLM diesel fuel without these limits on production or percentages. For example, the processor could choose whether to produce 15 ppm highway, 500 ppm highway, 500 ppm NRLM, or 15 ppm NR in any proportions, during the time periods when the non-highway baseline volume percentage or the highway TCO are applicable. We are concerned that to discourage abuse, some reasonable limit on a transmix processor's production volume that could be exempted from the requirements may be necessary. Thus, we propose to limit it to 105% of its 2003–2005 average production but seek comment on whether additional flexibility is warranted.

The processor would still need to properly designate its fuel with the proper product transfer documents and, in the case of heating oil between 2007 and 2014 and locomotive and marine fuel between 2010 and 2014, to apply the specified marker and comply with other reporting and recordkeeping requirements applicable to refiners. A processor choosing this approach would not be eligible to generate or use NRLM or highway sulfur credits.

Because the volume of fuel involved would be small and the fuel processed would already have been “off-spec,” we believe that providing these options for transmix processors would have essentially no environmental impact and would not affect the efficient functioning of the proposed program or the existing highway diesel program. Rather, these options would allow fuel volume to remain in the highway and/or NRLM markets that might otherwise be forced into the heating oil market.

4. Highway or Nonroad Diesel Fuel Treated as Blendstock (DTAB)

Under the proposed program, a situation could arise for importers where that was expected to comply with the 15 ppm NR or highway standard is found to be slightly higher in sulfur than the standard. Rather than require that importer to account for, and report, that fuel as 500 ppm fuel, we propose to allow the importer to designate the non-complying fuel as blendstock—“diesel fuel treated as blendstock” or DTAB—rather than as either highway or nonroad diesel fuel. In its capacity as a refiner, the party could blend this DTAB fuel with lower sulfur diesel fuel to cause the sulfur level of the combined product to meet the 15 ppm nonroad or highway standard.

Where previously certified diesel fuel is used to reduce the sulfur level of the DTAB to 15 ppm or less, the party, in its refiner capacity, would report only

the volume of the imported DTAB as the amount of diesel fuel produced. This avoids the double counting that would result if the same diesel fuel is reported twice. If the product that is blended with the DTAB is not previously certified diesel fuel, but is also blendstock, the total combined volume of the DTAB and other blendstock would constitute the batch produced.

When an importer classifies diesel fuel as DTAB, that DTAB would not count toward the importer's calculations under the highway diesel rule's temporary compliance option, toward credit generation or use, or for compliance calculations under the non-highway baseline approach.³²⁰ The same party, however, would include the DTAB in such calculations in its capacity as refiner. We believe such an approach would increase the supply of 15 ppm fuel by reducing the volume of near-compliant fuel that is downgraded to higher sulfur designations. In essence, it allows importers the same flexibility that refiners have within their refinery gate.

C. Requirements for Parties Downstream of the Refinery or Import Facility

In order for the environmental benefits of the proposed program to be ensured, parties in the fuel distribution system downstream of the refinery (including pipelines, terminals, bulk plants, wholesale purchaser-consumers, and retailers) must in most cases keep the various grades of fuel in the system separate. Owners and operators of nonroad diesel equipment must also be required in certain circumstances to use fuels meeting specific sulfur content standards. The following paragraphs discuss several provisions that we propose to apply to these parties: segregation of various fuel sulfur grades; diesel fuel pump labeling; use of used motor oil in diesel fuel; use of kerosene in diesel fuel; use of additives in diesel fuel; requirements for end users; and provisions covering downgrading of undyed diesel fuel to different grades of fuel. These provisions are analogous to similar provisions that apply to highway diesel fuel under the highway program.

1. Product Segregation and Contamination

This subsection discusses the various grades and uses of NRLM fuel under the proposed program and when these fuel grades must be segregated from each other. In later subsections, we discuss

related requirements for product transfer documents to identify fuels throughout the distribution system and provisions relating to the liability all parties in the distribution face for preventing contamination of these different fuel sulfur grades.

a. The Period From June 1, 2007 through May 31, 2010

Starting June 1, 2007, NRLM fuel having a sulfur content exceeding 500 ppm that is produced or imported under the credit, small refiner, or hardship provisions would need to be segregated from other NRLM fuel subject to the 500 ppm standard, until the point where IRS dye is added. After that point the 500 ppm NRLM fuel could be mixed with NRLM small refiner, hardship or credit fuel, but could not be mixed with heating oil without changing the designation to heating oil. However, during this period there would also be nonroad equipment equipped with engines subject to emission standards, where some of this equipment is expected to be equipped with sulfur sensitive technology that needs to operate on 500 ppm or less sulfur fuel in order to meet the proposed emission standards in-use. Fuels sold for use in, or dispensed into, these engines would need to be identified as meeting the 15 ppm standard or the 500 ppm standard, as applicable, and if so identified it would need to meet such standard, and avoid being contaminated with higher sulfur fuels.

We are proposing an additional segregation requirement for heating oil. As provided in Section IV of the preamble, such fuel would be required to be identified by a marker and segregated throughout the distribution system to the end user. It could not be used as nonroad, locomotive or marine fuel but could only be used as heating oil. NRLM fuel could, however, be used as heating oil. To be able to effectively enforce the segregation of heating oil, we are proposing that heating oil be marked by the refiner or importer by the addition of 6 mg/L of solvent yellow 124.

b. The Period From June 1, 2010 through May 31, 2014

Because of the extreme sulfur sensitivity of the expected engine emission control systems beginning in model year 2011 for nonroad diesel engines, it would be imperative that the distribution system segregate nonroad diesel fuel subject to the 15 ppm sulfur standard from higher sulfur distillate products, such as 500 ppm diesel fuel produced by small refiners or through the use of credits, heating oil, and jet fuel.

³²⁰ Importer/refiners availing themselves of the DTAB provisions would still be subject to the non-highway distillate baseline provisions, downgrading provisions, and other provisions applicable to any importer or refiner.

We are also concerned about potential misfueling of engines requiring 15 ppm fuel at retail or wholesale purchaser-consumer facilities as defined under this proposal, or other end-user facilities, even when segregation of 15 ppm fuel from the higher-sulfur grades of diesel fuel has been maintained in the distribution system. Thus, downstream compliance and enforcement provisions of the proposed rule are aimed at both preventing contamination of nonroad diesel fuel subject to the 15 ppm sulfur standard and preventing misfueling of new nonroad equipment.

As proposed in Section IV above, small refiners would be able to continue to produce 500 ppm nonroad fuel, until June 1, 2014. Other refiners could also produce fuel under the 500 ppm nonroad standard, through the use of credits, but only until June 1, 2012. In either case, we are proposing that during this period the 500 ppm fuel must be segregated from 15 ppm nonroad fuel throughout the distribution system, including the end user. We are also proposing that refiners and importers wishing to distribute 500 ppm nonroad diesel fuel during this period be required to petition the Agency for approval of a plan demonstrating the segregation of such fuel. The plan would also be required to include a quality assurance program that would ensure that the 500 ppm fuel would not cause fuel subject to the 15 ppm standard to be contaminated, and to ensure that model year 2011 and later nonroad diesel engines would not be misfueled.

As discussed in section IV above, we propose that during this period, locomotive and marine fuel be segregated using the same marker as was used for heating oil before June 1, 2010. During this time, heating oil would not be marked but would be segregated based on its sulfur content, since no other fuel could exceed 500 ppm.

c. After May 31, 2014

After all regulatory flexibilities have expired, the three remaining fuels (15 ppm highway and nonroad fuel, 500 ppm locomotive and marine fuel, and heating oil) would be segregated based on their sulfur content and identifying information on product transfer documents.

2. Diesel Fuel Pump Labeling To Discourage Misfueling

For any multiple-fuel program like the two-step program proposed today, we believe that the clear labeling of nonroad diesel fuel pumps would be vital so that end users could readily distinguish between the several grades of fuel that may be available at fueling

facilities, and properly fuel their nonroad equipment. Section VII above describes the labels that manufacturers would be required to place on model year 2011 and later nonroad equipment, and information that would be provided to nonroad equipment owners. Today's proposal includes requirements for labeling fuel pump stands at retail facilities, including bulk plants or portable fuel storage facilities used as a fueling facility, and wholesale purchaser-consumer facilities.

To help prevent misfueling of nonroad, locomotive and marine engines, and to thus assure the environmental benefits of the program are realized, we are proposing pump labeling requirements similar to those adopted in the highway diesel rule (40 CFR 80.570). These labels would apply to diesel fuel dyed for tax purposes, and thus generally could not be used in highway vehicles. The proposed fuel pump dispenser labeling requirements would supersede the non-highway labeling requirement established by the highway diesel rule on June 1, 2007. These pump dispenser labeling requirements are discussed separately for each of four time periods: Beginning June 1, 2006, June 1, 2007–August 31, 2010; September 1, 2010–August 31, 2014; and September 1, 2014 forward.

We are also proposing to amend the pump dispenser labeling language in the highway diesel regulations for consistency with this proposal. Because the highway diesel rule prohibits highway diesel fuel with sulfur levels above 500 ppm, the highway diesel rule and this proposal have different meanings for the terms “low sulfur” and “high sulfur”, and the highway diesel rule does not use the term “ultra low-sulfur.” Further, because the highway diesel rule did not need to categorize the different uses of non-highway diesel fuel, the highway diesel rule and this proposal have different meanings for the term “nonroad”.³²¹ The proposed amendments to the highway pump dispenser labeling language are to avoid confusion at the fuel pumps caused by labels with terms that would otherwise have different meanings depending on whether the pump dispenser is

³²¹ In the highway diesel rule, the term “high-sulfur” means diesel fuel with a sulfur level greater than 15 ppm, whereas in this proposal it means diesel fuel with a sulfur level greater than 500 ppm. In the highway diesel rule, the term “low-sulfur” means diesel fuel with a sulfur level of no greater than 15 ppm, whereas in this proposal it means diesel fuel with a sulfur level of no greater than 500 ppm. In addition, the term “nonroad” as used in the highway diesel rule means “non-highway” (i.e., all fuel that is not highway fuel), but the term “nonroad” as used in this proposal excludes locomotive diesel, marine diesel and heating oil.

designated to dispense highway or non-highway diesel fuel. We are also proposing to add effective dates to each paragraph of the labeling provisions of the highway diesel rule for consistency with the additional pump labeling sections of this proposal, and to distinguish the non-highway labeling requirement effective June 1, 2006 under the highway diesel rule from the non-highway labeling requirements of this proposal effective 2007.

a. Pump Labeling Requirements for 2006

We propose to amend the pump dispenser labeling language of the highway diesel rule for consistency with this proposal, and to avoid confusion at the fuel pumps caused by labels with terms that would otherwise have different meanings depending on whether the pump dispenser is dispensing highway or non-highway diesel fuel.

For pumps dispensing highway diesel fuel subject to the 500 ppm sulfur standard of § 80.520(c), we propose that the label read as follows:

LOW-SULFUR HIGHWAY DIESEL FUEL (500 ppm Maximum)

WARNING

May damage model year 2007 and later highway vehicles and engines.

Federal Law *prohibits* use in these vehicles

For pumps dispensing highway diesel fuel subject to the 15 ppm sulfur standard of § 80.520(a)(1), we propose that the label read as follows:

ULTRA LOW-SULFUR HIGHWAY DIESEL FUEL (15 ppm Maximum)

Recommended for use in all diesel vehicles and engines.

Required for model year 2007 and later highway diesel vehicles and engines.

For pumps dispensing diesel fuel for non-highway equipment that does not meet the standards for motor vehicle diesel fuel, we propose that the label read as follows:

NON-HIGHWAY DIESEL FUEL (May Exceed 500 ppm Sulfur)

WARNING

May damage or destroy highway engines and their emission controls.

Federal Law *prohibits* use in any highway vehicle or engine

b. Pump Labeling Requirements for 2007–2010

As discussed in section IV of the preamble, between June 1, 2007 and August 31, 2010, this proposal would

not require end users to dispense fuel meeting the 500 ppm sulfur standard into nonroad, equipment, locomotives or marine vessels. During this time period, small refiner fuel and fuel produced under the credit provisions with sulfur levels exceeding 500 ppm would still exist in the distribution system. Furthermore, this fuel could be mixed downstream at the point where the fuels are dyed for IRS tax purposes with fuel meeting the 500 ppm standard and introduced into nonroad, locomotive and marine engines. During this time period, there would also be nonroad equipment with engines subject to "pull-ahead" emission standards (*i.e.*, engines equipped with emission controls that allow them to meet standards earlier than required). Some of this pull-ahead equipment is expected to be equipped with sulfur sensitive technology that would need to operate on fuel of 500 ppm or less sulfur in order to meet the proposed emission standards in-use. For this reason, it is important that NRLM end users be able to know the sulfur level of the fuel they are purchasing and dispensing. Therefore, fuel pump dispensers for the various sulfur grades would also need to be properly labeled.

For pumps dispensing 500 ppm (maximum) sulfur content diesel fuel for nonroad equipment engines subject to pull-ahead standards, we propose that the label read as follows:

LOW-SULFUR NON-HIGHWAY DIESEL FUEL

(500 ppm Maximum)

WARNING

Not for Use In Highway Vehicles or Engines

It is also likely that prior to June 1, 2010 some 15 ppm (maximum) diesel fuel will be introduced into the nonroad market early. Both the engine and fuel credit provisions envision such early introduction of 2011-compliant engines and 15 ppm fuel. Thus, it is important that nonroad end users be able to know when they are purchasing diesel fuel with 15 ppm or less sulfur. For pumps dispensing 15 ppm (maximum) sulfur content diesel fuel for nonroad equipment engines subject to pull-ahead standards, we propose that the label read as follows:

ULTRA-LOW SULFUR NON-HIGHWAY DIESEL FUEL

(15 ppm Maximum)

Required for All Model Year 2011 and Newer Nonroad Diesel Engines

Recommended for Use in All Nonroad, Locomotive and Marine Diesel Engines

WARNING

Not for Use in Highway Vehicles or Engines

For all other nonroad equipment, locomotive, and marine engine diesel fuel pumps (that is, pumps dispensing diesel fuel having a sulfur content greater than 500 ppm) we propose that the label read as follows:

HIGH-SULFUR NON-HIGHWAY DIESEL FUEL

(May Exceed 500 ppm)

WARNING

Not for Use In Highway Vehicles or Engines

Not for Use in Nonroad, Locomotive, or Marine Engines after August 31, 2010

May Damage Engines Certified for Use on Low-Sulfur or Ultra-Low Sulfur Diesel Fuel

During this time period, as discussed in section IV.B.2.b, it would be necessary to segregate heating oil from nonroad, locomotive and marine diesel fuel to avoid circumventing the intent of the first step of the proposed nonroad standards—that PM and SO₃ benefits be achieved by producing fuel to the NRLM diesel fuel standards in an amount that fully corresponds to the amount of fuel used in these engines. Consequently, for pumps dispensing non-highway diesel fuel for use other than in nonroad, locomotive or marine engines, such as for use in stationary diesel engines or as heating oil, we propose that the label read as follows:

HEATING OIL (May Exceed 500 ppm Sulfur)

WARNING

Federal Law *Prohibits* Use in Highway Vehicles or Engines, or in Nonroad, Locomotive, or Marine Engines

May Damage Engines Certified for Use on Low-Sulfur or Ultra-Low Sulfur Diesel Fuel

c. Pump Labeling Requirements for 2010–2014

Beginning September 1, 2010, with certain exceptions, all fuel introduced into any nonroad engine, regardless of year of manufacture, would be required to meet the 15 ppm standard. The exceptions are that segregated small

refiner nonroad diesel fuel and credit nonroad diesel fuel would be allowed to meet the 500 ppm sulfur standard only for use in pre-model year 2011 engines. This limited use of 500 ppm fuel would continue through August 31, 2014,³²² after which all nonroad fuel would have to meet the 15 ppm standard. Fuel for use in locomotive and marine engines would be required to meet the 500 ppm standard without exception. As discussed in section IV.B.3.b, during this time period, it would be necessary to segregate the 500 ppm (maximum) locomotive and marine diesel fuel from the small refiner and credit 500 ppm (maximum) nonroad diesel fuel to ensure an adequate supply of ultra low-sulfur (15 ppm maximum) nonroad diesel fuel for nonroad purposes.

For pumps dispensing 15 ppm (maximum) sulfur content nonroad diesel fuel, we propose that the label read as follows:

ULTRA-LOW SULFUR NON-HIGHWAY DIESEL FUEL

(15 ppm Maximum)

Required for all Model Year 2011 and Newer Nonroad Diesel Engines

Recommended for Use in All Nonroad, Locomotive and Marine Diesel Engines

WARNING

Not for Use in Highway Vehicles or Engines

For pumps dispensing segregated small refiner or credit 500 ppm (maximum) nonroad diesel fuel, as discussed in section IV.B.3.b, we propose that the label read as follows:

LOW-SULFUR NON-HIGHWAY DIESEL FUEL

(500 ppm Maximum)

WARNING

May Damage Model Year 2011 and Newer Nonroad Engines

Federal Law *Prohibits* Use in All Model Year 2011 and Newer Nonroad Engines

Not for Use In Highway Vehicles or Engines

For pumps dispensing marked 500 ppm sulfur (maximum) locomotive and marine diesel fuel, as discussed in section IV.B.3.b, we propose that the label read as follows:

³²² Production of 500 ppm fuel under the credit provisions would be allowed until June 1, 2012, but small refiner fuel subject to the 500 ppm standard could continue to be produced until June 1, 2014 and would be available to end users until September 1, 2014.

LOW-SULFUR LOCOMOTIVE OR MARINE DIESEL FUEL**(500 ppm Maximum)****WARNING**

Federal Law *Prohibits* Use in Other Nonroad Engines or in Highway Vehicles or Engines

May Damage Model Year 2007 and Newer Highway Diesel Engines and 2011 and Newer Nonroad Diesel Engines

For pumps dispensing high-sulfur fuel for use as heating oil, we propose that the label read as follows:

HEATING OIL (May Exceed 500 ppm Sulfur)**WARNING**

Federal Law *Prohibits* Use in Highway Vehicles or Engines, or in Nonroad, Locomotive, or Marine Engines

May Damage Engines Certified for Use on Low-Sulfur or Ultra-Low Sulfur Diesel Fuel

d. Pump Labeling Requirements for 2014 and Beyond

Beginning September 1, 2014, all nonroad fuel distributed to end-users would be required to meet the 15 ppm standard, without exception. Locomotive and marine fuel would continue to be subject to the 500 ppm standard, without exception. The pump labels for heating oil would continue to be the same as for the period 2010 through 2014.

For pumps dispensing nonroad diesel fuel, we propose that the label read as follows:

ULTRA-LOW SULFUR NON-HIGHWAY DIESEL FUEL**(15 ppm Maximum)**

Required for all Nonroad Diesel Engines

Recommended for Use in All Nonroad, Locomotive and Marine Diesel Engines

WARNING

Not for Use in Highway Vehicles or Engines

For pumps dispensing locomotive or marine diesel fuel, we propose that the label read as follows:

LOW-SULFUR LOCOMOTIVE OR MARINE DIESEL FUEL**(500 ppm maximum)****WARNING**

Federal Law *Prohibits* Use in Other Nonroad Engines or in Highway Vehicles or Engines

May Damage Model Year 2007 and Newer Highway Diesel Engines and 2011 and Newer Nonroad Diesel Engines

For pumps dispensing high-sulfur fuel for use as heating oil, we propose that the label read the same as for that same fuel during the 2010–2014 time period, as follows:

HEATING OIL (May Exceed 500 ppm Sulfur)**WARNING**

Federal Law *Prohibits* Use in Highway Vehicles or Engines, or in Nonroad, Locomotive, or Marine Engines

May Damage Engines Certified for Use on Low-Sulfur or Ultra-Low Sulfur Diesel Fuel

e. Nozzle Size Requirements or Other Requirements To Prevent Misfueling

Like the highway diesel fuel program, the proposed NRLM diesel fuel program does not include a nozzle size requirement. In part this is because we are not aware of an effective and practicable scheme to prevent misfueling through the use of different nozzle sizes or shapes, and in part because we do not believe that improper fueling would be a significant enough problem to warrant such an action. In the preamble to the highway diesel fuel rule, we stated our belief that the use of unique nozzles, color-coded scuffguards, or dyes to distinguish the grades of diesel fuel may be useful in preventing accidental use of the wrong fuel. (See 66 FR 5119, January 18, 2001.) However, we did not finalize any such requirements, for the reasons described in the RIA for that final rule (Chapter IV.E.).

Similar reasoning applies to the proposed NRLM diesel fuel program. For example, 15 ppm diesel fuel would be the dominant fuel in the market by 2010, likely comprising more than 80 percent of all number 2 distillate. Furthermore, after 2010, we believe that 500 ppm diesel fuel would have limited availability until 2014. High-sulfur distillate for heating oil uses would remain, but will only exist in significant volumes in certain parts of the country. In any event, we believe that most owners and operators of new nonroad diesel engines and equipment would

not risk voiding the general warranty and the emissions warranty by misfueling.

Although in the highway diesel fuel rule we did not finalize any provisions beyond fuel pump labeling requirements, we recognized that some potential for misfueling would still exist. Consequently, we expressed a desire to continue to explore with industry simple, cost-effective approaches that could further minimize misfueling potential such as color-coded nozzles/scuff guards. Since the highway diesel rule was promulgated, we have had discussions with fuel retailers, wholesale purchaser-consumers, vehicle manufacturers, and nozzle manufacturers and continue to examine different methods for preventing accidental or intentional misfueling under the highway diesel fuel sulfur program. To date, no consensus exists among the affected stakeholders, including engine and truck manufacturers, truck operators, fuel retailers, and fuel nozzle manufacturers. However, we will continue discussions with these and other stakeholders. We will consider any new developments that result from these highway discussions in a future nonroad action.

3. Use of Used Motor Oil in New Nonroad Diesel Equipment

We understand that used motor oil is sometimes blended with diesel fuel for use as fuel in nonroad diesel equipment. Such practices include blending used motor oil directly into the equipment fuel tank, blending it into the fuel storage tanks, and blending small amounts of motor oil from the engine crank case into the fuel system as the equipment is operated.

However, motor oil normally contains high levels of sulfur. Thus, the addition of used motor oil to nonroad diesel fuel could substantially impair the sulfur-sensitive emissions control equipment expected to be used by engine manufacturers to meet the emissions standards proposed in today's NPRM. Depending on how the oil is blended, it could increase the sulfur content of the fuel by as much as 200 ppm. As a result, we believe blending used motor oil into nonroad diesel fuel could render inoperative the expected emission control technology and potentially cause driveability problems. It should be prohibited as a violation of the tampering prohibition in the Act. See CAA Sections 203(a)(3), 213(d).

Therefore, like the highway diesel rule, this proposal would prohibit any person from introducing or causing or allowing the introduction of used motor oil, or diesel fuel containing used motor

oil, into the fuel delivery systems of nonroad equipment engines manufactured in model year 2011 and later. The only exception to this would be where the engine was explicitly certified to the emission standard with used motor oil added and the oil was added in a manner consistent with the certification.

4. Use of Kerosene in Diesel Fuel

As we discussed in the highway diesel final rule, kerosene is commonly added to diesel fuel to reduce fuel viscosity in cold weather (see 66 FR 5120, January 18, 2001). This proposal would not limit this practice with regard to 500 ppm NRLM diesel fuel. However the resulting blend would still be subject to the 500 ppm sulfur standard. Consistent with the highway diesel fuel rule, kerosene that is used, intended for use, or made available for use as, or for blending with, 15 ppm sulfur nonroad diesel fuel would itself be required to meet the 15 ppm standard starting June 1, 2010 and must be itself classified as "nonroad diesel fuel" unless it was already classified as "motor vehicle diesel fuel." This classification as nonroad diesel fuel use could be made by the kerosene fuel's refiner or could be made by a downstream party at the point when that party chooses to use the kerosene in its possession for use as nonroad diesel fuel subject to the 15 ppm sulfur standard.

To help ensure that only distillates that comply with the proposed 15 ppm nonroad diesel fuel standard are blended into 15 ppm nonroad diesel fuel, this proposal would require that kerosene meeting the 15 ppm standard and distributed by the transferring party for use in nonroad equipment engines must be accompanied by PTDs accurately stating that the product meets the 15 ppm sulfur standard. (See Section VIII.E.7, below.)

As a general matter, any party who would blend kerosene, or any blendstock, into nonroad diesel fuel, or who would produce nonroad diesel fuel by mixing blendstocks, would be a refiner and would be subject to the requirements and prohibitions applicable to refiners under the proposed rule. However, under this proposal, in deference to the longstanding and widespread practice of blending kerosene into diesel fuel at downstream locations, downstream parties who only blend kerosene into nonroad diesel fuel will not be subject to the requirements applicable to other refiners, provided that they do not alter the fuel in any other way. This activity

is treated the same way under the final highway diesel rule.

In order to ensure the continued compliance of 15 ppm fuel with the 15 ppm standard, downstream parties choosing to blend kerosene into 15 ppm nonroad diesel fuel would be required to either have a PTD for that kerosene indicating compliance with the 15 ppm standard, or to have test results for the kerosene establishing such compliance. Further, downstream parties choosing to blend kerosene into 15 ppm nonroad diesel fuel would be entitled to the 2 ppm adjustment factor discussed above for both the kerosene and the diesel fuel into which it is blended at downstream locations, provided that the kerosene had been transferred to the party with a PTD indicating compliance with that standard. Sulfur test results from downstream locations of parties who do not have such a PTD for their kerosene will not be subject to this adjustment factor, either for the kerosene itself, or for the nonroad diesel fuel into which it is blended.

Any party who causes the sulfur content of nonroad diesel fuel subject to the 15 ppm sulfur standard to exceed 15 ppm by blending kerosene into nonroad diesel fuel, or by using high sulfur kerosene as nonroad diesel fuel, would be subject to liability for violating the sulfur standard. Similarly, parties who cause the sulfur level of nonroad diesel fuel subject to the 500 ppm nonroad diesel fuel to exceed that standard by blending kerosene into the fuel, would also be subject to liability.

The proposed rule would not require refiners or importers of kerosene to produce or import kerosene meeting the 15 ppm sulfur standard. However, we believe that refiners will produce low sulfur kerosene in the same refinery processes that they use to produce low sulfur diesel fuel, and that the market will drive supply of low sulfur kerosene for those areas where, and during those seasons when, the product is needed for blending with nonroad, as well as highway, diesel fuel. We request comments regarding this proposed provision.

5. Use of Diesel Fuel Additives

Diesel fuel additives include lubricity improvers, corrosion inhibitors, cold-operability improvers, and static dissipaters. Use of such additives is distinguished from the use of kerosene by the low concentrations at which they are used and their relatively more complex chemistry.³²³ The suitability of

diesel fuel additives for use in diesel fuel meeting a 500 ppm sulfur specification has been well established due to the existence of 500 ppm highway diesel fuel in the marketplace since 1993. The suitability of additives for use in 15 ppm diesel fuel was addressed in the highway diesel program, which requires highway diesel fuel to meet a 15 ppm sulfur standard beginning in 2006. Our review of data submitted by additive and fuel manufacturers to comply with EPA's Fuel and Fuel Additive Registration requirements indicates that additives to meet every purpose, including static dissipation, are currently in common use which meet a 15 ppm cap on sulfur content.³²⁴ Since such low-sulfur additives are currently in use side-by-side with high-sulfur additives, it is reasonable to conclude that there is not a significant difference in their cost. The ability of industry to provide low-sulfur additives is supported by the fact that diesel fuel meeting a 10 ppm cap on sulfur content has been marketed in Sweden for some time and is beginning to be marketed in other countries such as Germany. Fifteen ppm diesel fuel is also being made available to a number of centrally fueled fleets across the U.S.

Even if not yet available for certain purposes, we believe that it is reasonable to assume that low-sulfur additives will become available before the 15 ppm sulfur standard for highway diesel fuel becomes effective in 2006. This will be well in advance of the proposed 2010 implementation date for a 15 ppm sulfur standard on nonroad diesel fuel.

As discussed in section V of today's preamble, we expect that reducing the sulfur content of NRLM diesel fuel to meet proposed sulfur standards would not have a disproportionate impact on fuel lubricity compared to the reduction in lubricity associated with desulfurizing highway diesel fuel. We have no reason to expect that this situation would be any different with respect to the potential impact on nonroad diesel fuel properties other than fuel lubricity which might require the use of additives such as cold flow, and susceptibility to static build up. Consequently, our estimate of the increase in additive use that would

formulated polymers and other complex chemical components. Kerosene is used at much higher concentrations, expressed in volume percent. Unlike diesel fuel additives, kerosene is a narrow distillation fraction of the range of hydrocarbons normally contained in diesel fuel.

³²⁴ See Chapter IV.D. of the RIA for the highway diesel fuel rule for more information on diesel fuel additives, EPA Air docket A-99-06, docket item V-B-01. Also See 40 CFR part 79.

³²³ Diesel fuel additives are used at concentrations commonly expressed in parts per million. Diesel fuel additives can include specially-

result from the adoption of the proposed rule parallels that under the highway program. We estimate that the use of lubricity additives would increase, and that the use of other additives would be unaffected.³²⁵ We request comment on this assessment.

Similar to the highway diesel rule, this proposed rule would allow the use of diesel fuel additives with a sulfur content greater than 15 ppm in nonroad diesel fuel. However, nonroad diesel fuel containing such additives would remain subject to the proposed 15 ppm sulfur cap. We believe that it is most appropriate for the market to determine how best to accommodate increases in the fuel sulfur content from the refinery gate to the end user, while maintaining the 15 ppm cap, and whether such increases result from contamination in the distribution system or diesel additive use. By providing this flexibility, we anticipate that market forces will encourage an optimal balance between the competing demands of manufacturing fuel lower than the 15 ppm sulfur cap, limiting contamination in the distribution system, and limiting the additive contribution to fuel sulfur content.

As in the highway diesel program, additive manufacturers that market additives with a sulfur content higher than 15 ppm and blenders that use them in nonroad diesel fuel subject to the proposed 15 ppm sulfur standard would have additional requirements to ensure that the 15 ppm sulfur cap is not exceeded. The 15 ppm sulfur cap on highway diesel fuel that becomes effective in 2006 may encourage the gradual retirement of additives that do not meet a 15 ppm sulfur cap. The proposed 15 ppm sulfur cap for nonroad diesel fuel in 2010 may further this trend. However, we do not anticipate that this will result in disruption to additive users and producers or a significant increase in cost. Additive manufacturers commonly reformulate their additives on a periodic basis as a result of competitive pressures. We anticipate that any reformulation that might need to occur to meet a 15 ppm sulfur cap will be accomplished prior to the implementation of the 15 ppm sulfur cap on highway diesel fuel in 2006.

Like the highway diesel fuel rule, this proposed rule would limit the continued use in nonroad diesel fuel that is subject to the proposed 15 ppm sulfur standard of additives that exceed 15 ppm sulfur. These additives would

be limited to use in concentrations of less than one volume percent. We believe that this limitation is appropriate and would not cause any undue burden because the diesel fuel additives for which this flexibility was included are always used today at concentrations well below one volume percent. Further, one volume percent is the threshold above which the blender of an additive becomes subject to all the requirements applicable to a refiner. See 40 CFR 79.2(d)(1).

The specific proposed requirements regarding the use of diesel fuel additives in nonroad diesel fuel subject to the proposed 15 ppm standard are as follows:

- Additives that have a sulfur content at or below 15 ppm must be accompanied by a PTD that states: "The sulfur content of this additive does not exceed 15 ppm."

- Additives that exceed 15 ppm sulfur could continue to be used in nonroad diesel fuel subject to the proposed 15 ppm sulfur standard provided that they are used at a concentration of less than one volume percent and their transfer is accompanied by a PTD that lists the following:

- (1) A warning that the additive's sulfur content may exceed 15 ppm,
- (2) The additive's maximum sulfur concentration,
- (3) The maximum recommended concentration for use of the additive in diesel fuel, and,
- (4) The contribution to the sulfur level of the fuel that would result if the additive is used at the maximum recommended concentration.

Blenders of additives that exceed 15 ppm in sulfur content would be liable if their actions caused the sulfur content of the finished nonroad diesel fuel to exceed 15 ppm. In some cases, blenders may not find it feasible to conduct testing, or otherwise obtain information on the sulfur content of the fuel either before or after additive blending, without incurring substantial cost. We anticipate that blenders would manage the risk associated with the use of additives above 15 ppm in sulfur content under such circumstances with actions such as the following:

- Selecting an additive with minimal sulfur content above 15 ppm that is used at a low concentration, and
- Working with their upstream suppliers to provide fuel of sufficiently low sulfur content to accommodate the small increase in sulfur content which results from the use of the additive.

This is similar to the way distributors would manage contamination from their distribution hardware, such as tank

trucks. Distributors would not necessarily test for fuel sulfur content after each opportunity for contamination, but rather will rely on mechanisms set up to minimize the contamination, and to obtain fuel sufficiently below the standard to accommodate the increase in sulfur content from the contamination.

The recordkeeping, reporting, and PTD provisions associated with these proposed requirements are discussed in Section VIII.E below. The liability provisions are discussed in Section VIII.F below.

The 1993 and 2007 highway diesel programs did not contain any requirements regarding the maximum sulfur content of additives used in highway diesel fuel subject to a 500 ppm sulfur cap.³²⁶ Our experience under the highway program indicates that application of the 500 ppm sulfur cap throughout the distribution system to the end-user has been sufficient to prevent the use of additives from jeopardizing compliance with the 500 ppm sulfur standard. The potential increase of several ppm in the sulfur content of diesel fuel which might result from the use of diesel additives raises substantial concerns regarding the impact on compliance with a 15 ppm sulfur cap. However, this is not the case with respect to the potential impact on compliance with a 500 ppm sulfur cap. The current average sulfur content of highway diesel fuel of 340 ppm provides ample margin for the minimal increase in the fuel sulfur content which might result from the use of additives. We expect that this would also be the case for NRLM fuel subject to the proposed 500 ppm sulfur standard. Therefore, we are not proposing any requirements regarding the sulfur content of additives used in NRLM fuel subject to the proposed 500 ppm sulfur standard. We believe that the proposed requirement that NRLM fuel comply with the 500 ppm sulfur cap throughout the distribution system to the end-user would be sufficient to ensure that entities who introduce additives into such fuel take into account the potential increase in fuel sulfur content.

6. End User Requirements

In light of the importance of ensuring that the proper fuel is used in nonroad, locomotive, and marine engines covered

³²⁵ See Section IV.G. of today's preamble for a discussion of the potential impact of the proposed sulfur standards on fuel lubricity.

³²⁶ The 500 ppm highway diesel final rule contains the requirement that highway diesel fuel not exceed 500 ppm in sulfur content at any point in the fuel distribution system including after the blending of additives. Fuel Quality Regulations for Highway Diesel Fuel Sold in 1993 and Later Calendar Years, Final Rule, 55 FR 34120, August 21, 1990.

by the proposed program, we propose to prohibit any person from fueling such an engine with fuel not meeting the applicable sulfur standard.

We propose that (1) no person may introduce, or permit the introduction of, fuel that exceeds 15 ppm sulfur content into nonroad equipment with a model year 2011 or later engine; (2) beginning December 1, 2010, no person may introduce, or permit the introduction of locomotive or marine fuel into any nonroad diesel engine; (3) beginning December 1, 2010, no person may introduce, or permit the introduction of any fuel exceeding 15 ppm sulfur content into any nonroad diesel engine regardless of year of manufacture, except that segregated 500 ppm nonroad diesel fuel produced by qualified small refiners, hardship refiners, or refiners using credits may be introduced into pre-2011 model year nonroad diesel engines; (4) beginning December 1, 2010, no person may introduce, or permit the introduction of fuel exceeding 500 ppm sulfur content into any locomotive or marine diesel engine; and (5) beginning December 1, 2014, no person may introduce, or permit the introduction of, fuel exceeding 15 ppm sulfur content into any nonroad diesel engine.

7. Anti-Downgrading Provisions

The highway diesel rule restricts downgrading of 15 ppm highway diesel fuel to 500 ppm highway diesel fuel, from June 1, 2006–May 31, 2010 by preventing downstream entities from intentionally downgrading 15 ppm highway fuel. This is to protect the nationwide availability of 15 ppm highway fuel. The concern was that since both 15 ppm highway fuel and 500 ppm highway fuel were expected to be comparably priced, entities downstream of the refinery could simply take delivery of whichever fuel was cheapest and commingle the two fuel grades into a single pool of 500 ppm highway fuel. We chose not to restrict downgrading to non-highway fuel grades, however, for three reasons. First, in order to avoid reprocessing costs, an outlet was needed for legitimately downgraded fuel produced through contamination in the distribution system. Second, the price differential between 15 ppm fuel and high sulfur non-highway fuel was expected to be sufficient to deter any intentional downgrading. Third, many of the entities such as retailers and fleets that might have an incentive to

downgrade 15 ppm highway fuel do not market non-highway fuel, and therefore would have no opportunity to do so.

With this proposal, however, all NRLM diesel fuel would also be required to meet the 500 ppm sulfur standard beginning June 1, 2007 and it could be mixed fungibly with 500 ppm sulfur highway fuel up to the point where dye was added for IRS excise tax purposes. As a result, application of the current anti-downgrading provision in the highway diesel rule is ambiguous with respect to what would and would not be allowed under this proposal. Furthermore, the assumption in the highway rule that the price differential between 15 ppm highway and non-highway fuel would be sufficient to deter intentional downgrading would not necessarily be valid any longer, given the application of the 500 ppm sulfur standard to NRLM diesel fuel. For these reasons, we propose that the anti-downgrading provisions contained in 40 CFR 80.527 be modified to restrict downgrading of undyed 15 ppm diesel fuel to any 500 ppm diesel fuel, whether the 500 ppm sulfur fuel is intended for highway purposes or NRLM purposes. We would continue to allow unrestricted downgrading of undyed 15 ppm diesel fuel to fuel which is marked as heating oil.

We further propose that the downgrading restriction apply to any undyed 15 ppm diesel fuel produced. Since the two fuels would be distributed together, this modification to the downgrading limitations would be needed to enable enforcement of the highway diesel fuel downgrading limitations. We are not proposing any extension of that the anti-downgrading provisions beyond their current set date of June 1, 2010. The purpose of the anti-downgrading provisions is to ensure availability of 15 ppm highway fuel nationwide, and we do not anticipate this as a concern after June 1, 2010. This proposal allows early credit for 15 ppm NRLM diesel fuel produced beginning June 1, 2009. Although availability is not an issue for this fuel, it will be fungible with highway fuel subject to the 15 ppm sulfur standard. Consequently, we seek comment on whether the anti-downgrading provision could expire then as well without negatively impacting the availability of 15 ppm diesel fuel for highway vehicles. We request comment on these proposed revisions of the anti-downgrading provisions.³²⁷

While these proposed downgrading provisions apply primarily to parties in the distribution system downstream of the refiners and importers, these requirements would also apply to refiners and importers.

D. Diesel Fuel Sulfur Sampling and Testing Requirements

1. Testing Requirements

As part of today's action, we are proposing a new approach for fuel sulfur measurement. The details of this approach are described below, followed by a description of who would be required to conduct fuel sulfur testing as well as what fuel they would be required to test.

a. Test Method Approval, Recordkeeping, and Quality Control Requirements

Most current and past EPA fuel programs designated specific analytical methods which refiners, importers, and downstream parties use to analyze fuel samples at all points in the fuel distribution system for regulatory compliance purposes. Some of these programs have also allowed certain specific alternative methods which may be used as long as the test results are correlated to the designated test method. The highway diesel rule (66 FR 5002, January 18, 2001), for example, specifies one designated test method and three alternative methods for measuring the sulfur content of highway diesel fuel subject to the 15 ppm sulfur standard. The rule also specifies one designated method and three alternative methods for measuring the sulfur content of highway diesel fuel subject to the 500 ppm sulfur standard.

The highway diesel fuel sulfur rule also announced the Agency's intention to adopt a performance-based test method approach in the future, as well as our intention to continue working with the industry to develop and improve sulfur test methods. Under today's action, we are proposing to adopt a performance-based test method approach for diesel fuel subject to the 15 ppm sulfur standard. We are also proposing to adopt such an approach as an option for diesel fuel subject to the 500 ppm sulfur standard. The current approach for measuring the sulfur content of diesel fuel subject to the 500 ppm sulfur standard, *i.e.*, using the designated sulfur test method or one of the alternative test methods with correlation could continue to be used.

³²⁷ Since the time of the highway diesel final rule, we have become aware of the need for several other

clarifications of the anti-downgrading provisions.

We intend to address these general issues through a future amendment to the highway diesel rule.

TABLE IV-D-1.—DESIGNATED AND ALTERNATIVE SULFUR TEST METHODS ALLOWED UNDER THE HIGHWAY DIESEL PROGRAM

Sulfur test method	500 ppm	15 ppm
ASTM D 2622-98 as modified, Standard Test Method for Sulfur in Petroleum Products by X-Ray Spectrometry.	Designated	Alternative.
ASTM D 3120-96, Standard Test Method for Trace Quantities of Sulfur in Light Liquid Petroleum Hydrocarbons by Oxidative Microcoulometry.	Alternative.
ASTM D 4294, Standard Test Method for Sulfur in Petroleum and Petroleum Products by Energy-Dispersive X-ray Fluorescence Spectrometry.	Alternative.	
ASTM D 5453-00, Standard Test Method for Determination of Total Sulfur in Light Hydrocarbons, Motor Fuels and Oils by Ultraviolet Fluorescence.	Alternative	Alternative.
ASTM D 6428-99, Test Method for Total Sulfur in Liquid Aromatic Hydrocarbons and Their Derivatives by Oxidative Combustion and Electrochemical Detection.	Alternative	Designated.

Under the performance-based approach, a given test method would be approved for use in a specific laboratory by meeting certain precision and accuracy criteria specified in the regulations. The method would be approved for use by that laboratory as long as appropriate quality control procedures were followed. Properly selected precision and accuracy values potentially would allow multiple methods and multiple commercially available instruments to be approved, thus providing greater flexibility in method and instrument selection while also encouraging the development and use of better methods and instrumentation in the future. Under this approach, there would be no designated sulfur test method as specified under previous regulations.

Since any test method that meets the specified performance criteria may qualify, this type of approach does not conflict with the "National Technology Transfer and Advancement Act of 1995" (NTTAA), section 12(d) of Public Law 104-113, and the Office of Management and Budget (OMB) Circular A-119. Both of these documents are designed to encourage the adoption of standards developed by "voluntary consensus bodies" and to reduce reliance on government-unique standards where such consensus standards would suffice. Under the performance criteria approach proposed today, methods developed by consensus bodies as well as methods not yet approved by a consensus body would qualify for approval provided they met the specified performance criteria as well as the recordkeeping and reporting requirements for quality control purposes.

i. How Can a Given Method Be Approved?

Under the proposed performance criteria approach, a given test method would be approved for use under today's program by meeting certain precision and accuracy criteria. Approval would apply on a laboratory/facility-specific basis. If a company chose to employ more than one laboratory for fuel sulfur testing purposes, then each laboratory would have to separately seek approval for each method it intends to use. Likewise, if a laboratory chose to use more than one sulfur test method, then each method would have to be approved separately. Separate approval would not be necessary for individual operators or laboratory instruments within a given laboratory facility.

The specific precision and accuracy criteria that we are proposing were derived from existing sulfur test methods that are either required or allowed under the highway diesel fuel sulfur program. The first criterion, precision, refers to the consistency of a set of measurements and is used to determine how closely analytical results can be duplicated based on repeat measurements of the same material under prescribed conditions. To demonstrate the precision of a given sulfur test method under the performance-based approach, a laboratory facility would perform 20 repeat tests over 20 days on samples taken from a homogeneous supply of a commercially available diesel fuel. We request comment on an alternative number of days over which these 20 repeat tests should be conducted. Using the test results³²⁸ of ASTM D 3120 for

³²⁸ Sulfur Repeatability of Diesel by Method at 15 ppm, ASTM Report on Low Level Sulfur Determination in Gasoline and Diesel Interlaboratory Study—A Status Report, June 2002.

diesel fuel subject to the 15 ppm sulfur standard, the precision would have to be less than 0.72 ppm.³²⁹ Similarly, using the test results of ASTM D 2622 for diesel fuel subject to the 500 ppm sulfur standard, the precision would have to be less than 9.68 ppm.

The second criterion, accuracy, refers to the closeness of agreement between a measured or calculated value and the actual or specified value. To demonstrate the accuracy of a given test method under the performance-based approach, a laboratory facility would be required to perform 10 repeat tests on a standard sample, the mean of which for diesel fuel subject to the 15 ppm sulfur standard could not deviate from the Accepted Reference Value (ARV) of the standard by more than 0.54 ppm and for diesel fuel subject to the 500 ppm sulfur standard could not deviate from the ARV of the standard by more than 7.26 ppm.³³⁰ These tests would be performed using commercially available gravimetric sulfur standards. Ten tests would be required using each of two different sulfur standards—one in the range of 1–10 ppm sulfur and the other in the range of 10–20 ppm sulfur for 15 ppm fuel and one in the range of 100–200 ppm sulfur and the other in the

³²⁹ 0.72 ppm is equal to 1.5 times the standard deviation of ASTM D 3120, where the standard deviation is equal to the repeatability of ASTM D 3120 (1.33) divided by 2.77. 9.68 ppm is equal to 1.5 times the standard deviation of ASTM D 2622, where the standard deviation is equal to the repeatability of ASTM D 2622 (26.81) divided by 2.77. Since the conditions of the precision qualification test admit more sources of variability than the conditions under which ASTM repeatability is determined (longer time span, different operators, environmental conditions, etc.) the repeatability standard deviation derived from the round robin was multiplied by what we believe to be a reasonable adjustment factor, 1.5, to compensate for the difference in conditions.

³³⁰ 0.54 and 7.26 are equal to 0.75 times the precision values of 0.72 for 15 ppm sulfur diesel and 9.68 for 500 ppm sulfur diesel, respectively.

range of 400–500 ppm sulfur for 500 ppm sulfur diesel fuel. Therefore, a minimum of 20 total tests would be required for sufficient demonstration of accuracy for a given sulfur test method at a given laboratory facility. Finally, any known interferences for a given test method would have to be mitigated.

These requirements are not intended to be overly burdensome. Indeed, we believe these requirements are equivalent to what a laboratory would do during the normal start up procedure for a given test method. In addition, we believe this approach would allow regulated entities to know that they are measuring diesel fuel sulfur levels accurately and within reasonable site reproducibility limits. Nevertheless, we request comment on this performance criteria approach and the specific precision and accuracy criteria we are proposing.

ii. What Information Would Have To Be Reported to the Agency?

For test methods that have already been approved by a voluntary consensus standards body³³¹ (VCSB), such as ASTM or the International Standards Organization (ISO), each laboratory facility would be required to report to the Agency the precision and accuracy results as described above for each method for which it is seeking approval. Such submissions to EPA, as described elsewhere, would be subject to the Agency's review for 90 days, and the method would be considered approved in the absence of EPA comment. Laboratory facilities would be required to retain the fuel samples used for precision and accuracy demonstration for 30 days. We seek comment on an alternative number of days for which such fuel samples should be retained.

For test methods that have not been approved by a VCSB, full test method documentation, including a description of the technology/instrumentation that makes the method functional, as well as subsequent EPA approval of the method would also be required. These submissions would also be subject to the Agency's review for 90 days, and the method would be considered approved in the absence of EPA comment. Submission of VCSB methods would not be required since they are available in the public domain. In addition, industry and the Agency have likely had substantial experience with such methods. The approval of non-VCSB methods would be valid for five years.

After this time period, the approval would be rescinded unless the method had been adopted by a consensus body. If, a consensus body does not ultimately approve the method then the method could no longer be used as an approved method.

As described above, federal government and EPA policy is to use standards developed by voluntary consensus bodies when available. The purpose of the NTTAA, at least in part, is to foster consistency in regulatory requirements, to take advantage of the collective industry wisdom and widespread technical evaluation required before a test method is approved by a consensus body, and to take advantage of the ongoing oversight and evaluation of a test method by the consensus body that results from wide-spread use of an approved method *e.g.*, the ongoing round-robin type analysis and typical annual updating of the method by the consensus body. These goals are not met where the Agency allows use of a non-consensus body test method in perpetuity. Moreover, it is not possible to realize many of the advantages that result from consensus status where a test method is used by only one or a few companies. It will not have the practical scrutiny that comes from ongoing wide-spread use, or the independent scrutiny of the consensus body and periodic updating. In addition, EPA does not have the resources to conduct the degree of initial scrutiny or ongoing scrutiny that are practiced by consensus bodies. Nevertheless, EPA believes it is appropriate to allow limited use of a proprietary test method for a limited time, even though the significant advantages of consensus test methods are absent, because EPA can evaluate the initial quality of a method and a company may have invested significant resources in developing a method. However, if after a reasonable time a test method fails to gain consensus body approval, EPA believes approval of the method should be withdrawn because of the absence of ongoing consensus oversight. Accordingly, we propose that a non-VCSB method will cease to be qualified five years from the date of its original approval by EPA in the absence of VCSB approval.

To assist the Agency in determining the performance of a given sulfur test method, non-VCSB methods, in particular, we propose to reserve the right to send samples of commercially available fuel to laboratories for evaluation. Such samples would be intended for situations in which the Agency had concerns regarding a test method and, in particular, its ability to measure the sulfur content of a random

commercially available diesel fuel. Laboratory facilities would be required to report their results from three tests of this material to the Agency.

iii. What Quality Control Provisions Would Be Required?

We are proposing to require ongoing Quality Control (QC) procedures for sulfur measurement instrumentation. These are procedures used by laboratory facilities to ensure that the test methods they have qualified and the instruments on which the methods are run are yielding results with appropriate accuracy and precision, *e.g.*, that the results from a particular instrument do not "drift" over time to yield unacceptable values. It is our understanding that most laboratories already employ QC procedures, and that these are commonly viewed as important good laboratory practices. Under the performance-based approach, laboratories would be required, at a minimum, to abide by the following QC procedures for each instrument used to certify batches of diesel fuel under these regulations:

(1) Follow the mandatory provisions of ASTM D 6299–02, Standard Practice for Applying Statistical Quality Assurance Techniques to Evaluate Analytical Measurement System Performance. Laboratories would be required to construct control charts from the mandatory QC sample testing prescribed in paragraph 7.1, following the guidelines under A 1.5.1 for individual observation charts and A 1.5.2 for moving range charts.

(2) Follow ASTM D6299–02 paragraph 7.3.1 (check standards) using a standard reference material. Check standard testing would be required to occur at least monthly and should take place following any major change to the laboratory equipment or test procedure. Any deviation from the accepted reference value of the check standard greater than 1.44 ppm for diesel fuel subject to the 15 ppm sulfur standard and 19.36 ppm for diesel fuel subject to the 500 ppm sulfur standard³³² would have to be investigated.

(3) Upon discovery of any QC testing violation of A 1.5.2.1 or A 1.5.3.2 or check standard deviation greater than 1.44 ppm and 19.36 ppm for 15 ppm sulfur diesel and 500 ppm sulfur diesel, respectively, as provided in item 2 above, any measurement made while the system was out of control would be required to be tagged as suspect and an

³³¹ These are standard-setting organizations, like ASTM, and ISO that have broad representation of all interested stakeholders and make decisions by consensus.

³³² 1.44 ppm is equal to two times the proposed precision of 0.72 ppm for 15 ppm diesel and 19.36 is equal to two times the proposed precision of 9.68 ppm for 500 ppm diesel.

investigation conducted into the reasons for this anomalous performance. We also propose that refiners and importers would be required to retain batch samples for a limited amount of time. For example, a retain period could be equal to the interval between QC sample tests. If an instrument was found to be out of control, we propose that all of the retained samples since the last time the instrument was shown to be in control would have to be retested. We seek comment on alternative ways to handle situations in which a method goes out of control at some unknown point in time between check standard tests or between QC sample tests.

(4) QC records, including investigations under item 3 above would be required to be retained for five years and to be provided to the Agency upon request.

b. Requirements To Conduct Fuel Sulfur Testing.

Given the importance of assuring that nonroad diesel fuel designated to meet the 15 ppm sulfur standard in fact meets that standard, we are proposing that refiners and importers must test each batch of nonroad diesel fuel designated to meet the 15 ppm sulfur standard and to maintain records of such testing. Requiring that refiners and importers test each batch of fuel subject to the 15 ppm nonroad standard would assure that compliance could be confirmed through testing records, and even more importantly, would assure that nonroad diesel fuel exceeding the 15 ppm standard was not introduced into commerce as fuel for use in nonroad equipment having sulfur-sensitive emission control devices. Batch testing is currently not required under the highway diesel rule, and instead such testing is typically performed to establish a defense to potential liability. However, for the same reasons discussed above, we propose to extend this batch testing requirement to 15 ppm sulfur highway diesel fuel beginning in 2006.

We are not proposing to require downstream parties to conduct every-batch testing. However, we believe most downstream parties would voluntarily conduct "periodic" sampling and testing for quality assurance purposes if they wanted to establish a defense to presumptive liability, as discussed in VIII.G below.

2. Two Part-Per-Million Downstream Sulfur Measurement Adjustment

We believe that it would be appropriate to recognize sulfur test variability in determining compliance with the proposed nonroad diesel fuel

sulfur standard downstream of a refinery or import facility. Thus, we propose that for all 15 ppm sulfur nonroad diesel fuel at locations downstream of the refinery or import facility, sulfur test results could be adjusted by subtracting two ppm. The sole purpose of this downstream compliance provision is to address test variability concerns. We anticipate that the reproducibility of sulfur test methods is likely to improve to two ppm or even less by the time the 15 ppm sulfur standard for highway diesel fuel is implemented—four years before implementation date of the proposed 15 ppm standard for nonroad diesel fuel. With this provision, we anticipate that refiners would be able to produce diesel fuel with an average sulfur level of approximately 7–8 ppm and some contamination could occur throughout the distribution system, without fear of causing a downstream violation due solely to test variability. As test methods improve in the future, we propose to reevaluate whether two ppm is the appropriate allowance for purposes of this compliance provision.

3. Sampling Requirements

This proposed rule would adopt the same sampling methods adopted by the highway diesel rule (66 FR 5002, January 18, 2001). The requirement to use these methods would be effective for nonroad diesel fuel June 1, 2007. These same methods were also adopted for use in the Tier 2/Gasoline Sulfur rule.³³³ These sampling methods are American Society for Testing and Materials (ASTM) D 4057–95 (manual sampling) and D 4177–95 (automatic sampling from pipelines/in-line blending).

4. Alternative Sampling and Testing Requirements for Importers of Diesel Fuel Who Transport Diesel Fuel By Tanker Truck

We understand that importers who transport diesel fuel into the U.S. by tanker truck are frequently relatively small businesses that could be subject to a substantial burden if they were required to sample and test each batch of nonroad or highway diesel fuel imported by truck, especially where a trucker imports many small loads of diesel fuel. Therefore, we are proposing that truck importers could comply with an alternative sampling and testing requirement, involving a sampling and testing program of the foreign truck loading terminal, if certain conditions

were met. For an importer to be eligible for the alternative sampling and testing requirement, the terminal would have to conduct sampling and testing of the nonroad or highway diesel fuel immediately after each receipt into its terminal storage tank or immediately before loading product into the importer's tanker truck storage compartments. Moreover, the importer would be required to allow EPA to conduct periodic quality assurance testing of the terminal's diesel fuel, and the importer would be required to assure that EPA would be allowed to make unannounced inspections and audits, to sample and test fuel at the foreign terminal facility, to assure that the terminal maintained sampling and testing records, and to submit such records to EPA upon request. We request comment on this proposal.

E. Fuel Marker Test Method

As discussed in section IV.B.2.a.i above, we propose the use of solvent yellow 124 to differentiate diesel fuel intended for different uses. This marker is currently use in Europe. However, there is currently no test procedure recognized by the European Union to quantify the presence of the solvent yellow 124 in distillate fuels. The most commonly accepted method used in the European Union is based on the chemical extraction of the Euromarker using hydrochloric acid solution and cyclohexane, and the subsequent evaluation of the extract using a visual spectrometer to determine the concentration of the marker.³³⁴ This test is inexpensive and easy to use for field inspections. However, the test involves reagents that require some safety precautions and the small amount of fuel required in the test must be disposed of as hazardous waste. Nevertheless, we believe that such safety concerns are manageable here in the U.S. just as they are in Europe and that the small amount of waste generated can be handled along with other similar waste generated by the company conducting the test, and that the associated effort/costs would be negligible.

Similar to the approach proposed regarding the measurement of fuel sulfur content discussed in Section VIII.D. above, we are proposing a performance-based procedure to measure the concentration of solvent yellow 124 in distillate fuel. Section VIII.D above describes our rationale for

³³³ 65 FR 6833–34 (Feb. 10, 2000). These methods are also proposed for use under the RFG and CG rules. See 62 FR 37337 *et seq.* (July 11, 1997).

³³⁴ Memorandum to the docket entitled "Use of a Visible Spectrometer Based Test Method in Detecting the Presence and Determining the Concentration of Solvent Yellow 124 in Diesel Fuel."

proposing performance-based test procedures. Under the performance-based approach, a given test method could be approved for use in a specific laboratory or for field testing by meeting certain precision and accuracy criteria. Properly selected precision and accuracy values potentially would allow multiple methods and multiple commercially available instruments to be approved, thus providing greater flexibility in method and instrument selection while also encouraging the development and use of better methods and instrumentation in the future. For example, we are hopeful that with more time and effort a simpler test can be developed that can avoid the use of reagents and the generation of hazardous waste that is by product of the current commonly accepted method.

Under the performance criteria approach proposed today, methods developed by consensus bodies as well as methods not yet approved by a consensus body would qualify for approval provided they met the specified performance criteria as well as the recordkeeping and reporting requirements for quality control purposes. There would be no designated marker test method. We request comment on whether it would be more appropriate to adopt a designated marker test method. Such comments would be most useful if they include complete details on a suitable designated marker test method.

1. How Could a Given Marker Test Method Be Approved?

Under the proposed performance criteria approach, a given marker test method would be approved for use under today's program by meeting certain precision and accuracy criteria. Approval would apply on a laboratory/facility-specific basis. If a company chose to employ more than one laboratory for fuel marker testing purposes, then each laboratory would have to separately seek approval for each method it intends to use. Likewise, if a laboratory chose to use more than one marker test method, then each method would have to be approved separately. Separate approval would not be necessary for individual operators or laboratory instruments within a given laboratory facility. The method would be approved for use by that laboratory as long as appropriate quality control procedures were followed.

In developing the precision and accuracy criteria for the sulfur test method, EPA drew upon the results of an interlaboratory study conducted by the American Society for Testing and Materials (ASTM) to support ASTM's

standardization of the sulfur test method. Unfortunately, there has not been sufficient time for industry to standardize the test procedure used to measure the concentration of solvent yellow 124 in distillate fuels or to conduct an interlaboratory study regarding the variability of the method. Nevertheless, the European Union has been successful in implementing its marker requirement while relying on the marker test procedures which are currently available, as noted above. We are proposing to use this procedure to establish the precision and accuracy criteria on which a marker test procedure would be approved under the performance-based approach. We request comment on the suitability of the proposed reference marker test method, including whether standardized acceptability criteria exist regarding the visible spectrometer apparatus and associated measurement procedure used in performing the test.

There has been substantial experience in the use of the proposed reference marker test method since the August 2002 effective date of the European Union's marker requirement. However, EPA is aware of only limited summary data on the variability of the reference test method from a manufacturer of the visible spectrometer apparatus used in the testing.³³⁵ The stated resolution of the test method from the materials provided by this equipment manufacturer is 0.1 mg/L, with a repeatability of plus or minus 0.08 mg/L and a reproducibility of plus or minus 0.2 mg/L.³³⁶ In the lack of more extensive data, we propose to use these available data as the basis of our proposed precision and accuracy criteria as discussed below. We request that comments which suggest that these data are unsuitable for the intended use also include additional test data where possible to improve the derivation of precision and accuracy criteria.

Using a similar methodology to that employed in deriving the proposed

sulfur test procedure precision value results in a precision value for the marker test procedure of 0.043 mg/L.³³⁷ However, we are concerned that the use of this precision value, because it is based on very limited data, might preclude the acceptability of test procedures that would be adequate for the intended regulatory use. In addition, the lowest measurement of marker concentration that would have relevance under the regulations is 0.1 mg per liter. Consequently, we are proposing that the precision of a marker test procedure would need to be less than 0.1 mg/L for it to qualify. We request comment on this proposed precision level.

We are proposing that to demonstrate the accuracy of a given test method, a laboratory facility would be required to perform 10 repeat tests, the mean of which could not deviate from the Accepted Reference Value (ARV) of the standard by more than 0.05 mg/L. We believe that the proposed accuracy level is not overly restrictive, while being sufficiently protective considering that the lowest marker level of regulatory significance would be 0.1 mg/L. Ten tests would be required using each of two different marker standards, one in the range of 0.1 to 1 mg/L and the other in the range of 4 to 10 mg/L of solvent yellow 124. Therefore, a minimum of 20 total tests would be required for sufficient demonstration of accuracy for a given marker test method at a given laboratory facility. Finally, any known interferences for a given test method would have to be mitigated. We are proposing that these tests be performed using commercially available solvent yellow 124 standards. Since the European Union's marker requirement would have been in effect for over six years and we expect this requirement to continue indefinitely, we believe that such standards would be available by the implementation date for this proposed rule. We request comment on this assessment and on whether we should allow facilities that conduct the proposed tests to blend up their own marker standards using a pure supply of the fuel marker.

We request comment on the proposed precision and accuracy criteria described above. These requirements are not intended to be overly burdensome. To the contrary, we believe these requirements are equivalent to what a laboratory would do during the normal start up procedure for a given test

³³⁵ Technical Data on Fuel/Dye/Marker & Color Analyzers, as downloaded from the Petroleum Analyzer Company L.P. Web site at http://www.petroleum-analyzer.com/product/PetroSpec/lit_pspec/DTcolor.pdf.

³³⁶ Repeatability and reproducibility are terms related to test variability. ASTM defines repeatability as the difference between successive results obtained by the same operator with the same apparatus under constant operating conditions on identical test materials that would, in the long run, in the normal and correct operation of the test method be exceeded only in one case in 20. Reproducibility is defined by ASTM as the difference between two single and independent results obtained by different operators working in different laboratories on identical material that would, in the long run, be exceeded only in one case in twenty.

³³⁷ See Section VIII.D. of this proposal for a discussion of the methodology used in deriving the proposed precision and accuracy values for the sulfur test method.

method. In addition, we believe this approach would allow regulated entities to know that they are measuring fuel marker levels accurately and within reasonable site reproducibility limits.

2. What Information Would Have To Be Reported to the Agency?

As noted above, the European Union's (EU) marker requirement would have been in effect for over six years prior to the effective date for the proposed marker requirements and we expect the EU requirement to continue indefinitely. Thus, we anticipate that the European testings standards community will likely have standardized a test procedure to measure the concentration of solvent yellow 124 in distillate fuels prior to the implementation of the proposed marker requirement. Given the limited duration of the proposed marker requirements, we do not anticipate that the United States testing standards community would enact such a standardized test procedure. To the extent that marker test methods that have already been approved by a voluntary consensus standards body³³⁸ (VCSB), such as the International Standards Organization (ISO) or the American Society for Testing and Materials (ASTM), each laboratory facility would be required to report to the Agency the precision and accuracy results as described above for each method for which it is seeking approval. Such submissions to EPA, as described elsewhere, would be subject to the Agency's review for 30 days, and the method would be considered approved in the absence of EPA comment. Laboratory facilities would be required to retain the fuel samples used for precision and accuracy demonstration for a limited amount of time (e.g., 30 days).

For test methods that have not been approved by a VCSB, full test method documentation, including a description of the technology/instrumentation that makes the method functional, as well as subsequent EPA approval of the method would also be required. These submissions would also be subject to the Agency's review for 60 days, and the method would be considered approved in the absence of EPA comment. Submission of VCSB methods would not be required since they are available in the public domain. In addition, industry and the Agency have likely had substantial experience with such methods.

To assist the Agency in determining the performance of a given marker test method (non-VCSB methods, in particular), we propose to reserve the right to send samples of commercially available fuel to laboratories for evaluation. Such samples would be intended for situations in which the Agency had concerns regarding a test method and, in particular, its ability to measure the marker content of a random commercially available diesel fuel. Laboratory facilities would be required to report their results from three tests of this material to the Agency.

Given the limited duration of the proposed marker requirements, we are proposing that qualified test methods would remain valid for as long as the marker requirements remained in effect, provided that additional faults with the test method were not discovered. We are also proposing that ongoing Quality Control (QC) procedures for marker measurement instrumentation similar to those that we proposed for the sulfur test procedures in Section VIII.D above. We request comment on whether such QC procedures are needed for the marker test method.

F. Requirements for Recordkeeping, Reporting, and Product Transfer Documents

1. Registration of Refiners and Importers

By December 31, 2004, refiners and importers that may produce or supply NRLM diesel fuel by June 1, 2007 would be required to register with EPA. There would be no need to register if a refiner (and all its refineries), or an importer, is already registered under the highway diesel program. The registration would include the following information:

- Corporate name and address of the refiner or importer and any parent companies and a contact person.
- Name and address of all refineries or import facilities (including, for importers, the PADD(s)).
- A contact person.
- Location of records.
- Business activity (refiner or importer).
- Capacity of each refinery in barrels of crude oil per calendar day.

2. Application for Small Refiner Status

We propose that an application of a refiner for small refiner status be submitted to EPA by June 1, 2005 and include the following information:

- The name and address of each location at which any employee of the company, including any parent

companies or subsidiaries,³³⁹ worked during the 12 months preceding January 1, 2003;

- The average number of employees at each location, based on the number of employees for each of the company's pay periods for the 12 months preceding January 1, 2003;
- The type of business activities carried out at each location; and
- The total crude oil refining capacity of the corporation. We define total capacity as the sum of all individual refinery capacities for multiple-refinery companies, including any and all subsidiaries, as reported to the Energy Information Administration (EIA) for 2002, or in the case of a foreign refiner, a comparable reputable source, such as professional publication or trade journal.³⁴⁰ Refiners do not need to include crude oil capacity used in 2002 through a lease agreement with another refiner in which it has no ownership interest.

The crude oil capacity information reported to the EIA or comparable reputable source is presumed to be correct. However, in cases where a company disputes this information, we propose to allow 60 days after the company submits its application for small refiner status for that company to petition us with detailed data it believes shows that the EIA or other source's data was in error. We would consider this data in making a final determination about the refiner's crude oil capacity.

Small refinery facilities could not be approved for small refiner status unless the refinery produces diesel fuel from crude oil. This is because a small refiner's relief is intended to address the hardship encountered in making capital improvements to a crude oil refinery. No such costs are involved in operations that only blend previously refined products.

3. Applying for Refiner Hardship Relief

As discussed above in Section IV.C.2, a refiner seeking general hardship relief under the proposed program would apply to EPA and provide several types of financial and technical information, such as internal cash flow data and information on bank loans, bonds, and assets as well as detailed engineering and construction plans and permit status. Applications for hardship relief would be due June 1, 2005.

³³⁹ "Subsidiary" here covers entities of which the parent company has 50 percent or greater ownership.

³⁴⁰ We will evaluate each foreign refiner's documentation of crude oil capacity on an individual basis.

³³⁸ These are standard-setting organizations, like ASTM, and ISO that have broad representation of all interested stakeholders and make decisions by consensus.

4. Applying for a Non-Highway Distillate Baseline Percentage

As discussed in section IV above, we are proposing that refiners or importers wishing to fungibly distribute highway and NRLM fuel from any refinery or import facility apply to EPA for a non-highway baseline percentage for each such refinery or facility. Refiners or importers would provide EPA with data to quantify its annual average production or importation of distillate that was dyed for use in any non-highway application for each year during the period from January 1, 2003 through December 31, 2005. Specifically, this data would consist of the following for each batch of diesel fuel during this period:

- The date the refiner finished production of the batch
- The volume of the batch
- Whether the fuel in the batch was dyed

We propose that applications for non-highway baselines be submitted to EPA by February 28, 2006. We would act on these baselines by June 1, 2006, in time for the refiner or importer to earn early credits if they wished.

5. Pre-Compliance Reports

We believe that an early general understanding of the progress of the refining industry in complying with the proposed requirements would be valuable to both the affected industries and EPA. As with the highway diesel program, we propose that each refiner and importer provide annual reports on the progress of and plans for each of their refineries or import facilities. These pre-compliance reports would be required by June 1 of each year beginning in 2005 and continuing up through 2010, or until the entity produced or imported any 15 ppm nonroad fuel, whichever is later.

EPA would maintain the confidentiality of information submitted in pre-compliance reports to the full extent authorized by law. We would report generalized summaries of this data following the receipt of the pre-compliance reports. We recognize that plans may change for many refiners or importers as the compliance dates approach. Thus, submission of the report would not impose an obligation to follow through on plans projected in the pre-compliance reports.

Pre-compliance reports could, at the discretion of the refiner/importer, be submitted in conjunction with the annual compliance reports proposed below and/or the pre-compliance and annual compliance reports required under the highway diesel program, so

long as all information required in all reports is clearly provided.

In their pre-compliance reports, refiners and importers would need to include the following information:

- Any changes in their basic corporate or facility information since registration.
- Estimates of the volumes (in gallons) of each sulfur grade of highway and non-highway fuel produced (or imported) at each refinery (or facility). These volume estimates would be provided both for fuel produced from crude oil, as well as any fuel produced from other sources.
- For entities expecting to participate in the credit program, estimates of numbers of credits to be earned and/or used.
- Information regarding engineering plans such as design and construction, the status of obtaining any necessary permits, and capital commitments for making the necessary modifications to produce low sulfur nonroad diesel fuel, and actual construction progress.
- The pre-compliance reports in 2006 and later years must provide an update of the progress in each of these areas.

6. Annual Compliance Reports and Batch Reports for Refiners and Importers

After the nonroad diesel sulfur requirements begin on June 1, 2007, refiners and importers would be required to submit annual compliance reports for each refinery that demonstrated compliance with the proposed requirements. If a refiner produces 15 ppm or 500 ppm fuel early under the credit provisions, its annual compliance reporting requirement would begin on June 1 following the beginning of the early fuel production. These reporting requirements would sunset after all flexibility provisions end (i.e., 2012 for non-small refiners and 2014 for small refiners). Annual compliance reports would be due on August 31 of the year.

A refiner's (for each refinery) or importer's annual compliance report would include the following information:

- Report demonstrating compliance with the applicable sulfur content requirements using the non-highway baseline percentage approach or demonstrating compliance using an alternative compliance option *e.g.*, a small refiner option or the option to dye all nonroad, locomotive/marine diesel fuel at the refinery, as applicable.
- Report on the generation, use, transfer and retirement of diesel sulfur credits. Credit transfer information would include the identification of the

number of credits obtained from, or transferred to, each entity. Reports would also show the credit balance at the start of the period, and the balance at the end of the period. NRLM or nonroad diesel sulfur credit information would be required to be stated separately from highway diesel credit information since the 2 credit programs would be treated separately.

- Batch reports for each batch produced or imported providing information regarding volume, sulfur level, cetane/aromatics standard compliance and whether the fuel was dyed and/or marked. The certification that fuel was marked with the specified chemical marker at the refinery or import facility would apply to heating oil for the period June 1, 2007 through June 1, 2010 and to locomotive and marine fuel for the period June 1, 2010 through June 1, 2014.

- For a small refiner that elects to produce 15 ppm nonroad diesel fuel by June 1, 2006 and therefore is eligible for a limited relaxation in its interim small refiner gasoline sulfur standards, the annual reports would also include specific information on gasoline sulfur levels and progress toward highway and nonroad diesel desulfurization.

7. Product Transfer Documents (PTDs)

Today we are proposing that refiners and importers must provide information on commercial PTDs that would identify diesel fuel distributed for use in nonroad, locomotive, or marine equipment or motor vehicles, as appropriate, and state which sulfur standard the fuel is subject to. PTDs must state whether NRLM fuel complies with the 500 ppm sulfur standard or the 15 ppm sulfur standard. This would continue to be necessary even after 2010, since locomotive and marine engines could still use 500 ppm diesel fuel after all nonroad equipment would have to use 15 ppm fuel. Until all highway fuel sulfur content must meet the 15 ppm sulfur standard in 2010, it would be necessary for PTDs to indicate if 500 ppm fuel is dyed or undyed, and in all cases, PTDs would need to indicate if 15 ppm fuel is dyed or undyed, so that its appropriate use can be determined by transferees. Moreover, some nonroad diesel fuel, such as segregated small refiner fuel, could exceed the 15 ppm standard until as late as August 31, 2014; however, it could only be used in model year 2010 and earlier nonroad diesel engines.

We believe this additional information on commercial PTDs is necessary because of the importance of keeping the several sulfur grades and uses of diesel fuel separate from one

another in the distribution system. Each party in the system would better be able to identify which type of fuel it is dealing with and could more effectively ensure that they were meeting the proposed requirements of the program. This in turn would help ensure that misfueling of sulfur sensitive engines does not occur and that the program would otherwise result in the needed emission reductions.

Except for transfers to truck carriers, retailers and wholesale purchaser-consumers, this proposal would allow use of product codes to convey the information. We believe that more explicit language on PTDs to these parties is necessary since employees of such parties are less likely to be aware of the meaning of product codes. PTDs would not be required for transfers of product into nonroad, locomotive, or marine equipment at retail outlets or wholesale purchaser-consumer facilities.

a. The Period From June 1, 2007 through May 31, 2010

During the first years of the program, unique PTDs would be required to distinguish the types of fuel that could be produced and sold and any restrictions on its use³⁴¹:

- Undyed 500 ppm fuel.
- Undyed 15 ppm fuel.
- Dyed 500 ppm fuel (not for use in highway vehicles).
- Dyed 15 ppm fuel (not for use in highway vehicles).
- Dyed high-sulfur fuel (not for use in highway vehicles or certain nonroad engines).
- Marked heating oil (not for use in NRLM equipment or highway vehicles).

b. The Period from June 1, 2010 through May 31, 2014

Beginning June 1, 2010, unique PTDs would be required to distinguish the types of fuel that could be produced and sold during this period:

- Undyed 15 ppm.
- Dyed 15 ppm fuel (not for use in highway vehicles).
- Dyed 500 ppm fuel (not for use in model year 2011 and later nonroad engines, or highway vehicles).
- Marked 500 ppm locomotive and marine fuel (not for use in nonroad equipment or highway vehicles).
- Heating oil (not for use in NRLM equipment or highway vehicles).

c. The Period After May 31, 2014

Beginning June 1, 2014, unique PTDs would be required to distinguish

remaining types of fuel that could be produced and sold during this period.

- Undyed 15 ppm fuel.
- Dyed 15 ppm fuel (not for use in highway vehicles).
- 500 ppm locomotive and marine fuel (not for use in nonroad equipment or highway vehicles).
- Heating oil (not for use in highway vehicles or NRLM equipment).

d. Kerosene and Other Distillates To Reduce Viscosity

To assure that downstream parties can determine the sulfur level of kerosene or other distillates that may be distributed for use for blending into 15 ppm highway or NRLM diesel fuel, e.g. to reduce viscosity in cold weather, this proposal would require that PTDs identify distillates specifically distributed for such use as meeting the 15 ppm standard.

e. Exported Fuel

Consistent with other fuels rules, NRLM diesel fuel to be exported from the U.S. would not be required to meet the sulfur content requirements of the proposed regulations. For example, where a refiner designates a batch of diesel fuel for export, and can demonstrate through commercial documents that the fuel was exported, that volume would not be used in calculating compliance with applicable baselines. Product transfer documents accompanying the transfer of custody or title to such fuel at each point in the distribution system would be required to state that the fuel is for export only and may not be used in the United States.

f. Additives

This proposal would require that PTDs for additives for use in nonroad diesel fuel state whether the additive complies with the 15 ppm sulfur standard. Like the highway diesel rule, this proposal would allow the sale of additives, for use by fuel terminals or other parties in the diesel fuel distribution system, that have a sulfur content greater than 15 ppm under specified conditions.

Under this proposal for additives that have a sulfur content not exceeding 15 ppm, the PTD would state: "The sulfur content of this additive does not exceed 15 ppm." For additives that have a sulfur content exceeding 15 ppm, the additive manufacturer's PTD, and PTDs accompanying all subsequent transfers, would provide: a warning that the additive's sulfur content exceeds 15 ppm; the maximum sulfur content of the additive; the maximum recommended concentration for use of the additive in

diesel fuel, stated as gallon of additive per gallon of diesel fuel; and the increase in sulfur concentration of the fuel the additive will cause when used at the maximum recommended concentration.

We are also proposing provisions for additives sold to owner/operators for use in diesel powered nonroad equipment. This is because of the concern that additives designed for engines not requiring 15 ppm sulfur content fuel, such as locomotives or marine engines, could accidentally be introduced into nonroad engines if they have no label stating appropriate use. Under this proposal, end user additives for use in highway or NRLM diesel engines would be required to be accompanied by information that states that the additive either: complies with the 15 ppm sulfur content requirements or that it has a sulfur content exceeding 15 ppm and is not for use in model year 2011 or later nonroad diesel equipment. We believe this information is necessary for end users to determine if an additive is appropriate for nonroad equipment use.

8. Recordkeeping Requirements

Under the highway rule, refiners that produce or importers that import highway diesel fuel must maintain the following records for each batch of diesel fuel produced or imported) The batch designations; the applicable sulfur content standard; whether the fuel is dyed or undyed; whether the fuel is marked or unmarked; the batch volumes; whether the fuel was dyed or undyed, and sampling and testing records. The refiner or importer would also be required to maintain records regarding credit generation, use, transfer, purchase, or termination, separately for highway and nonroad credit programs.

We propose that these requirements from the highway rule be applied to all nonroad, locomotive, and marine diesel fuel subject to this rule as well.

9. Record Retention

This proposal would adopt a retention period of 5 years for all records required to be kept by the rule. This is the same period of time required in other fuels rules, and it coincides with the applicable statute of limitations. We believe that for other reasons, most parties in the distribution system would maintain some or all of these records for this length of time even without the requirement.

This retention period would apply to PTDs, records of any test results performed by any regulated party for quality assurance purposes or otherwise

³⁴¹ Note that for each time period discussed in this subsection, we expect few if any areas would be supplied with all the potential types of fuel listed.

(whether or not such testing was required by this rule), along with supporting documentation such as date of sampling and testing, batch number, tank number, and volume of product. Business records regarding actions taken in response to any violations discovered would also be required to be maintained for 5 years.

All records required to be maintained by refiners or importers participating in the generation or use of credits, hardship options (or by importers of diesel fuel produced by a foreign refiner approved for the temporary compliance option or a hardship option), including small refiner options, would also be covered by the retention requirement.

G. Liability and Penalty Provisions for Noncompliance

1. General

The liability and penalty provisions of the proposed NRLM diesel sulfur rule would be very similar to the liability and penalty provisions found in the highway diesel sulfur rule, the gasoline sulfur rule, the RFG rule and other EPA fuels regulations.³⁴² Regulated parties would be subject to prohibitions which are typical in EPA fuels regulations, such as prohibitions on selling or distributing fuel that does not comply with the applicable standard, and causing others to commit prohibited acts. Liability would also arise under the NRLM diesel rule for prohibited acts specific to the diesel sulfur control program, such as introducing nonroad diesel fuel not meeting the 15 ppm sulfur standard into model year 2011 or later nonroad equipment. In addition, parties would be liable for a failure to meet certain requirements, such as the recordkeeping, reporting, or PTD requirements, or causing others to fail to meet such requirements.

Under this proposal, the party in the diesel fuel distribution system that controls the facility where a violation occurred, and other parties in that fuel distribution system (such as the refiner, reseller, and distributor), would be presumed to be liable for the violation.³⁴³ As in the Tier 2 gasoline

sulfur rule and the highway diesel fuel rule, the proposed rule would explicitly prohibit causing another person to commit a prohibited act or causing non-conforming diesel fuel to be in the distribution system. Non-conforming includes: (1) diesel fuel with sulfur content above 15 ppm incorrectly designated as appropriate for model year 2011 or later nonroad equipment or other engines requiring 15 ppm fuel; (2) diesel fuel with sulfur content above 500 ppm incorrectly designated as appropriate for nonroad equipment or locomotives or marine engines after the applicable date for the 500 ppm standard for these pieces of equipment; or (3) distillates not containing required markers or otherwise not complying with the requirements of this proposal. Parties outside the diesel fuel distribution system, such as diesel additive manufacturers and distributors, would also be subject to liability for those diesel rule violations which could have been caused by their conduct.

This proposal also would provide affirmative defenses for each party presumed liable for a violation, and all presumptions of liability would be rebuttable. In general, in order to rebut the presumption of liability, parties would be required to establish that: (1) the party did not cause the violation; (2) PTD(s) exist which establish that the fuel or diesel additive was in compliance while under the party's control; and (3) the party conducted a quality assurance sampling and testing program. As part of their affirmative defense diesel fuel refiners or importers, diesel fuel additive manufacturers, and blenders of high sulfur additives into diesel fuel, would also be required to provide test results establishing the conformity of the product prior to leaving that party's control. Branded refiners would have additional affirmative defense elements to establish. The proposed defenses under the nonroad diesel sulfur rule are similar to those available to parties for violations of the highway diesel sulfur, RFG, gasoline volatility, and the gasoline sulfur regulations. This proposed rule would also clarify that parent corporations are liable for violations of subsidiaries, in a manner consistent with the gasoline sulfur rule and the highway diesel sulfur rule. Finally, the proposed NRLM diesel sulfur rule mirrors the gasoline sulfur rule and the highway diesel sulfur rule by clarifying that each partner to a joint venture would be jointly and severally liable for the violations at the joint venture facility or by the joint venture operation.

As is the case with the other EPA fuels regulations, the proposed diesel sulfur rule would apply the provisions of section 211(d)(1) of the Clean Air Act (Act) for the collection of penalties. These penalty provisions currently subject any person that violates any requirement or prohibition of the diesel sulfur rule to a civil penalty of up to \$31,500 for every day of each such violation and the amount of economic benefit or savings resulting from the violation. A violation of a NRLM diesel sulfur standard would constitute a separate day of violation for each day the diesel fuel giving rise to the violation remains in the fuel distribution system. Under the proposed regulation, the length of time the diesel fuel in question remains in the distribution system is deemed to be twenty-five days unless there is evidence that the fuel remained in its distribution system a lesser or greater amount of time. This is the same time presumption that is incorporated in the RFG, gasoline sulfur and highway diesel sulfur rules. The penalty provisions would also be similar to the penalty provisions for violations of these regulations.

EPA has included in this proposal two prohibitions for "causing" violations: (1) causing another to commit a violation; and (2) causing non-complying diesel fuel to be in the distribution system. These causation prohibitions are like similar prohibitions included in the gasoline sulfur and the highway diesel sulfur regulations, and, as discussed in the preamble to those rules, EPA believes they are consistent with EPA's implementation of prior motor vehicle fuel regulations. See the liability discussion in the preamble to the gasoline sulfur final rule, at 65 FR 6812 *et seq.*

The prohibition against causing another to commit a violation would apply where one party's violation is caused by the actions of another party. For example, EPA may conduct an inspection of a terminal and discover that the terminal is offering for sale nonroad diesel fuel designated as complying with the 15 ppm sulfur standard, while it, in fact, had an actual sulfur content greater than the standard.³⁴⁴ In this scenario, parties in the fuel distribution system, as well as parties in the distribution system of any diesel additive that had been blended into the fuel, would be presumed liable

³⁴² See section 80.5 (penalties for fuels violations); section 80.23 (liability for lead violations); section 80.28 (liability for gasoline volatility violations); section 80.30 (liability for highway diesel violations); section 80.79 (liability for violation of RFG prohibited acts); section 80.80 (penalties for RFG/CG violations); section 80.395 (liability for gasoline sulfur violations); section 80.405 (penalties for gasoline sulfur regulations); and section 80.610–614 (prohibited acts, liability for violations, and penalties for highway diesel sulfur regulations).

³⁴³ An additional type of liability, vicarious liability, is also imposed on branded refiners under the proposal.

³⁴⁴ At downstream locations the violation would occur if EPA's test result showed a sulfur content of greater than 17 ppm, which takes into account the two ppm adjustment factor for testing reproducibility for downstream parties.

for causing the terminal to be in violation. Each party would have the right to present an affirmative defense to rebut this presumption.

The prohibition against causing non-complying diesel fuel to be in the distribution system would apply, for example, if a refiner transfers non-complying diesel fuel to a pipeline. This prohibition could encompass situations where evidence shows high sulfur diesel fuel was transferred from an upstream party in the distribution system, but EPA may not have test results to establish that parties downstream also violated a prohibited act with this fuel.

The Agency would expect to enforce the liability scheme of the NRLM diesel sulfur rule in the same manner that we have enforced the similar liability schemes in our prior fuels regulations. As in other fuels programs, we would attempt to identify the party most responsible for causing the violation, recognizing that party should primarily be liable for penalties for the violation.

2. What Are the Proposed Liability Provisions for Additive Manufacturers and Distributors, and Parties That Blend Additives Into Diesel Fuel?

a. General

The final highway diesel rule permits the blending of diesel additives with sulfur content in excess of 15 ppm into 15 ppm highway diesel fuel under limited circumstances. As more fully discussed earlier in this preamble, this proposed rule would permit downstream parties to blend fuel additives having a sulfur content exceeding 15 ppm into 15 ppm nonroad diesel, provided that: (1) The blending of the additive does not cause the diesel fuel's sulfur content to exceed the 15 ppm sulfur standard; (2) the additive is added in an amount no greater than one volume percent of the blended product; and (3) the downstream party obtained from its additive supplier a product transfer document ("PTD") with the additive's sulfur content and the recommended treatment rate, and that it complied with such treatment rate.

Since the proposed rule would permit the limited use in nonroad diesel fuel of additives with high sulfur content, the Agency believes it would be more likely that a diesel fuel sulfur violation could be caused by the use of high sulfur additives. This could result from the additive manufacturer's misrepresentation or inaccurate statement of the additive's sulfur content or recommended treat rate on the additive's PTD, or an additive distributor's contamination of low

sulfur additives with high sulfur additives during transportation. The increased probability that parties in the diesel additive distribution system could cause a violation of the sulfur standard warrants the imposition by the Agency of increased liability for such parties. Therefore, the proposed rule, like the final highway diesel rule, would explicitly make parties in the diesel additive distribution system liable for the sale of nonconforming diesel fuel additives, even if such additives have not yet been blended into diesel fuel. In addition, the proposed rule would impose presumptive liability on parties in the additive distribution system if diesel fuel into which the additive has been blended is determined to have a sulfur level in excess of its permitted concentration. This presumptive liability would differ depending on whether the blended additive was designated as meeting the 15 ppm sulfur standard (a "15 ppm additive") or designated as a greater than 15 ppm sulfur additive (a "high sulfur additive"), as discussed below.

b. Liability When the Additive Is Designated as Complying With the 15 ppm Sulfur Standard

Additives blended into diesel fuel downstream of the refinery would be required to have a sulfur content no greater than 15 ppm, and be accompanied by PTD(s) accurately identifying them as complying with the 15 ppm sulfur standard, with the sole exception of diesel additives blended into nonroad diesel fuel at a concentration no greater than one percent by volume of the blended fuel.

All parties in the fuel and additive distribution systems would be subject to presumptive liability if the blended fuel exceeds the sulfur standard. The two ppm downstream adjustment would apply when EPA tests the fuel subject to the 15 ppm sulfur standard. Low sulfur additives present a less significant threat to diesel fuel sulfur compliance than would occur with the use of additives designated as possibly exceeding 15 ppm sulfur. Thus, parties in the additive distribution system of the low sulfur additive could rebut the presumption of liability by showing the following: (1) Additive distributors would only be required to produce PTDs stating that the additive complies with the 15 ppm sulfur standard; (2) additive manufacturers would also be required to produce PTDs complying in an accurate manner with the regulatory requirements, as well as producing test results, or retained samples on which tests could be run, establishing the additive's compliance with the 15 ppm

sulfur standard prior to leaving the manufacturer's control. Once their presumptive liability was refuted by producing such documentation in a convincing manner, these additive system parties would only be held responsible for the diesel fuel non-conformity in situations in which EPA can establish that the party actually caused the violation.

Under this proposed rule, parties in the diesel fuel distribution system would have the typical affirmative defenses of other fuels rules. For parties blending an additive into their diesel fuel, the requirement of producing PTDs showing that the product complied with the regulatory standards would necessarily include PTDs for the additive that was used, affirming the compliance of the additive and the fuel.

c. Liability When The Additive Is Designated as Having a Possible Sulfur Content Greater Than 15 ppm

Under this proposed rule, a nonroad diesel additive would be permitted to have a maximum sulfur content above 15 ppm if the blended fuel continues to meet the 15 ppm standard and the additive is used at a concentration no greater than one volume percent of the blended fuel. However, if nonroad diesel fuel containing that additive is found by EPA to have high sulfur content, then all the parties in both the additive and the fuel distribution chains would be presumed liable for causing the nonroad diesel fuel violation.

Since this type of high sulfur additive presents a much greater probability of causing diesel fuel non-compliance, parties in the additive's distribution system would have to satisfy an additional element to establish an affirmative defense. In addition to the elements of an affirmative defense described above, parties in the additive distribution system for such a high sulfur additive would also be required to establish that they did not cause the violation, an element of an affirmative defense that is typically required in EPA fuel programs to rebut presumptive liability.

Parties in the diesel fuel distribution system would essentially have to establish the same affirmative elements as in other fuels rules, with an addition comparable to the highway diesel rule. Blenders of high sulfur additives into 15 ppm sulfur nonroad diesel fuel, would have to establish a more rigorous quality control program than would exist without the addition of such a high sulfur additive. The Agency believes that parties blending high sulfur additives into their 15 ppm sulfur nonroad diesel fuel should be required

to produce test results establishing that the blended fuel was in compliance with the 15 ppm sulfur standard after being blended with the high sulfur additive. This additional defense element would be required as an added safeguard to ensure nonroad diesel fuel compliance, since the blender has voluntarily chosen to use an additive which increases the risk of diesel fuel non-compliance.

H. How Would Compliance With the Sulfur Standards Be Determined?

EPA is today proposing that compliance with the diesel sulfur standards would be determined based on the sulfur level of the diesel fuel, as measured using a testing methodology approved under the provisions discussed in Section VIII.D of this preamble. We further propose that any evidence from any source or location could be used to establish the diesel fuel sulfur level, provided that such evidence is relevant to whether the level would have been in compliance if the regulatory sampling and testing methodology had been correctly performed. This is consistent with the approach taken under the gasoline sulfur rule and the highway diesel sulfur rule.

The proposed regulations would provide that the primary determinant of compliance with the sulfur standards would be use of an approved test method. Additionally, other information could be used under the proposed rule, including test results using a non-approved method, if the evidence is relevant to determining whether the sulfur level would meet applicable standards had compliance been determined using an approved test methodology. While the use of such a non-approved method might produce results relevant to determining sulfur content, this would not remove any liability for failing to conduct required batch testing using an approved test method.

For example, the Agency might not have sulfur results derived from an approved test method for diesel fuel sold by a terminal, yet the terminal's own test results, based on testing using methods other than those approved under the regulations, could reliably show an exceedance of the sulfur standard. Under this proposed rule, evidence from the non-approved test method could be used to establish the diesel fuel's sulfur level that would have resulted if an approved test method had been conducted. This type of evidence is available for use by either the EPA or the regulated party, and could be used to show either

compliance or noncompliance.

Similarly, absent the existence of sulfur test results using an approved method, commercial documents asserting the sulfur level of diesel fuel or additive could be used as some evidence of what the sulfur level of the fuel would be if the product would have been tested using an approved method.

The Agency believes that the same statutory authority for EPA to adopt the gasoline sulfur rule's evidentiary provisions, Clean Air Act section 211(c), provides appropriate authority for our proposal of the evidentiary provisions of today's diesel sulfur rule. For a fuller explanation of this statutory authority, see Section VI(I) of the gasoline sulfur final rule preamble, 65 FR 6815, February 10, 2000.

IX. Public Participation

We request comment on all aspects of this proposal. This section describes how you can participate in this process.

A. How and to Whom Do I Submit Comments?

We are opening a formal comment period by publishing this document. We will accept comments for the period indicated under **DATES** above. If you have an interest in the program described in this document, we encourage you to comment on any aspect of this rulemaking. We request comment on various topics throughout this proposal.

Your comments will be most useful if you include appropriate and detailed supporting rationale, data, and analysis. If you disagree with parts of the proposed program, we encourage you to suggest and analyze alternate approaches to meeting the air quality goals described in this proposal. You should send all comments, except those containing proprietary information, to our Air Docket (see **ADDRESSES**) before the end of the comment period.

You may submit comments electronically, by mail, or through hand delivery/courier. To ensure proper receipt by EPA, identify the appropriate docket identification number in the subject line on the first page of your comment. Please ensure that your comments are submitted within the specified comment period. Comments received after the close of the comment period will be marked "late." EPA is not required to consider these late comments. If you wish to submit CBI or information that is otherwise protected by statute, please follow the instructions in Section IX.B. Do not use EPA Dockets or e-mail to submit CBI or information protected by statute.

1. Electronically

If you submit an electronic comment as prescribed below, EPA recommends that you include your name, mailing address, and an e-mail address or other contact information in the body of your comment. Also include this contact information on the outside of any disk or CD ROM you submit, and in any cover letter accompanying the disk or CD ROM. This ensures that you can be identified as the submitter of the comment and allows EPA to contact you in case EPA cannot read your comment due to technical difficulties or needs further information on the substance of your comment. EPA's policy is that EPA will not edit your comment, and any identifying or contact information provided in the body of a comment will be included as part of the comment that is placed in the official public docket, and made available in EPA's electronic public docket. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment.

i. EPA Dockets

Your use of EPA's electronic public docket to submit comments to EPA electronically is EPA's preferred method for receiving comments. Go directly to EPA Dockets at <http://www.epa.gov/edocket>, and follow the online instructions for submitting comments. To access EPA's electronic public docket from the EPA Internet Home Page, select "Information Sources," "Dockets," and "EPA Dockets." Once in the system, select "Quick Search," and then key in Docket ID No. OAR-2003-0012. The system is an "anonymous access" system, which means EPA will not know your identity, e-mail address, or other contact information unless you provide it in the body of your comment.

ii. E-mail

Comments may be sent by electronic mail (e-mail) to nrt4@epa.gov, Attention Docket ID No. A-2001-28. In contrast to EPA's electronic public docket, EPA's e-mail system is not an "anonymous access" system. If you send an e-mail comment directly to the Docket without going through EPA's electronic public docket, EPA's e-mail system automatically captures your e-mail address. E-mail addresses that are automatically captured by EPA's e-mail system are included as part of the comment that is placed in the official public docket, and made available in EPA's electronic public docket.

iii. Disk or CD ROM

You may submit comments on a disk or CD ROM that you mail to the mailing address identified in Section IX.A.2 below. These electronic submissions will be accepted in WordPerfect or ASCII file format. Avoid the use of special characters and any form of encryption.

2. By Mail

Send your comments to: Air Docket, Environmental Protection Agency, Mailcode: 6102T, 1200 Pennsylvania Ave., NW., Washington, DC, 20460, Attention Docket ID No. A-2001-28.

3. By Hand Delivery or Courier

Deliver your comments to: EPA Docket Center, (EPA/DC) EPA West, Room B102, 1301 Constitution Ave., NW., Washington, DC., Attention Docket ID No. A-2001-28. Such deliveries are only accepted during the Docket's normal hours of operation from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays.

B. How Should I Submit CBI to the Agency?

Do not submit information that you consider to be CBI electronically through EPA's electronic public docket or by e-mail. Send or deliver information identified as CBI only to the following address: U.S. Environmental Protection Agency, Assessment and Standards Division, 2000 Traverwood Drive, Ann Arbor, MI, 48105, Attention Docket ID No. A-2001-28. You may claim information that you submit to EPA as CBI by marking any part or all of that information as CBI (if you submit CBI on disk or CD ROM, mark the outside of the disk or CD ROM as CBI and then identify electronically within the disk or CD ROM the specific information that is CBI). Information so marked will not be disclosed except in accordance with procedures set forth in 40 CFR part 2.

In addition to one complete version of the comment that includes any information claimed as CBI, a copy of

the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public docket and EPA's electronic public docket. If you submit the copy that does not contain CBI on disk or CD ROM, mark the outside of the disk or CD ROM clearly that it does not contain CBI. Information not marked as CBI will be included in the public docket and EPA's electronic public docket without prior notice. If you have any questions about CBI or the procedures for claiming CBI, please consult the person identified in the **FOR FURTHER INFORMATION CONTACT** section.

C. Will There Be a Public Hearing?

We will hold three public hearings; in Los Angeles, Chicago, and New York City. The hearings will be held on the following dates and start at the following times, and continue until everyone present has had an opportunity to speak.

Hearing location	Date	Time
New York, New York, Park Central New York, 870 Seventh Avenue at 56th Street, New York, NY 10019, Telephone: (212) 247-8000, Fax: (212) 541-8506.	June 10, 2003	9:00 a.m. EDT.
Chicago, Illinois, Hyatt Regency O'Hare, 9300 W. Bryn Mawr Avenue, Rosemont, IL 60018, Telephone: (847) 696-1234, Fax: (847) 698-0139.	June 12, 2003	9:00 a.m. CDT.
Los Angeles, California, Hyatt Regency Los Angeles, 711 South Hope Street, Los Angeles, California, USA. 90017, Telephone: (213) 683-1234, Fax: (213) 629-3230.	June 17, 2003	9:00 a.m. PDT.

If you would like to present testimony at a public hearing, we ask that you notify the contact person listed above at least ten days before the hearing. You should estimate the time you will need for your presentation and identify any needed audio/visual equipment. We suggest that you bring copies of your statement or other material for the EPA panel and the audience. It would also be helpful if you send us a copy of your statement or other materials before the hearing.

We will make a tentative schedule for the order of testimony based on the notifications we receive. This schedule will be available on the morning of each hearing. In addition, we will reserve a block of time for anyone else in the audience who wants to give testimony.

We will conduct the hearing informally, and technical rules of evidence won't apply. We will arrange for a written transcript of the hearing and keep the official record of the hearing open for 30 days to allow you to submit supplementary information. You may make arrangements for copies

of the transcript directly with the court reporter.

We will conduct the hearing informally, and technical rules of evidence won't apply. We will arrange for a written transcript of the hearing and keep the official record of the hearing open for 30 days to allow you to submit supplementary information. You may make arrangements for copies of the transcript directly with the court reporter.

D. Comment Period

The comment period for this rule will end on August 20, 2003.

E. What Should I Consider as I Prepare My Comments for EPA?

You may find the following suggestions helpful for preparing your comments:

1. Explain your views as clearly as possible.
2. Describe any assumptions that you used.
3. Provide any technical information and/or data you used that support your views.

4. If you estimate potential burden or costs, explain how you arrived at your estimate.

5. Provide specific examples to illustrate your concerns.

6. Offer alternatives.

7. Make sure to submit your comments by the comment period deadline identified.

8. To ensure proper receipt by EPA, identify the appropriate docket identification number in the subject line on the first page of your response. It would also be helpful if you provided the name, date, and **Federal Register** citation related to your comments.

X. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review

Under Executive Order 12866 (58 FR 51735, October 4, 1993), the Agency must determine whether the regulatory action is "significant" and therefore subject to review by the Office of Management and Budget (OMB) and the requirements of this Executive Order.

The Executive Order defines a "significant regulatory action" as any regulatory action that is likely to result in a rule that may:

- Have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, Local, or Tribal governments or communities;
- Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;
- Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs, or the rights and obligations of recipients thereof; or
- Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

A draft Regulatory Impact Analysis has been prepared and is available in the docket for this rulemaking and at the internet address listed under "How Can I Get Copies of This Document and Other Related Information?" above. This action was submitted to the Office of Management and Budget for review under Executive Order 12866. Estimated

annual costs of this rulemaking are estimated to be \$1.2 billion per year, thus this proposed rule is considered economically significant. Written comments from OMB and responses from EPA to OMB comments are in the public docket for this rulemaking.

B. Paperwork Reduction Act

The information collection requirements in this proposed rule have been submitted for approval to the Office of Management and Budget (OMB) under the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.* The Agency proposes to collect information to ensure compliance with the provisions in this rule. This includes a variety of requirements, both for engine manufacturers and for fuel producers. Information-collection requirements related to engine manufacturers are in EPA ICR #1897.05; requirements related to fuel producers are in EPA ICR #1718.05. Section 208(a) of the Clean Air Act requires that manufacturers provide information the Administrator may reasonably require to determine compliance with the regulations; submission of the information is therefore mandatory. We will consider confidential all information meeting the

requirements of section 208(c) of the Clean Air Act.

As shown in Table X-1, the total annual burden associated with this proposal is about 215,000 hours and \$16 million, based on a projection of 470 respondents. The estimated burden for engine manufacturers is a total estimate for both new and existing reporting requirements. The fuel-related requirements represent our first regulation of nonroad diesel fuel, so those burden estimates reflect only new reporting requirements. Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; and transmit or otherwise disclose the information.

TABLE X-1.—ESTIMATED BURDEN FOR REPORTING AND RECORDKEEPING REQUIREMENTS

Industry sector	Number of respondents	Annual burden hours	Annual costs (in millions)
Engines	95	160,000	\$12.5
Fuels	375	55,000	3.7
Total	470	215,000	16.2

An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations are listed in 40 CFR part 9 and 48 CFR chapter 15.

Comments are requested on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques. Send comments on the ICR to the Director, Collection Strategies Division; U.S. Environmental Protection Agency (2822); 1200 Pennsylvania Ave., NW., Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th St., NW., Washington, DC 20503, marked "Attention: Desk Officer for EPA." Include the ICR number in any

correspondence. Since OMB is required to make a decision concerning the ICR between 30 and 60 days after May 23, 2003, a comment to OMB is best ensured of having its full effect if OMB receives it by July 23, 2003. The final rule will respond to any OMB or public comments on the information collection requirements contained in this proposal.

C. Regulatory Flexibility Act (RFA), as Amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), 5 U.S.C. 601 *et seq.*

1. Overview

The Regulatory Flexibility Act (RFA) generally requires an agency to prepare a regulatory flexibility analysis for any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a significant

economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

For the purposes of assessing the impacts of today's rule on small entities, a small entity is defined as: (1) A small business that meets the definitions based on the Small Business Administration's (SBA) size standards (see table below); (2) a small governmental jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field. The following table provides an overview of the primary SBA small business categories potentially affected by this regulation:

Industry	Defined as small entity by SBA if:	Major SIC ^a codes
Engine manufacturers	Less than 1,000 employees	Major Group 35.
Equipment manufacturers:..		
—construction equipment	Less than 750 employees	Major Group 35.
—industrial truck manufacturers (<i>i.e.</i> forklifts)	Less than 750 employees	Major Group 35.
—all other nonroad equipment manufacturers	Less than 500 employees	Major Group 35.
Fuel refiners	Less than 1500 ^b	2911.
Fuel distributors	(varies)	(varies).

Notes:^a Standard Industrial Classification^b EPA has included in past fuels rulemakings a provision that, in order to qualify for the small refiner flexibilities, a refiner must also have a company-wide crude refining capacity of no greater than 155,000 barrels per calendar day. EPA has included this criterion in the small refiner definition for a nonroad diesel sulfur program as well.**2. Background**

Controlling emissions from nonroad engines and equipment, in conjunction with diesel fuel quality controls, has very significant public health and welfare benefits, as explained in Section II of this preamble. We are proposing new engine standards and related provisions under sections 213(a)(3) and (4) of the Clean Air Act which, among other things, direct us to establish (and from time to time revise) emission standards for new nonroad diesel engines. Similarly, section 211(c)(1) authorizes EPA to regulate fuels if any emission product of the fuel causes or contributes to air pollution that may endanger public health or welfare, or that may impair the performance of emission control technology on engines and vehicles.

In accordance with Section 603 of the RFA, EPA prepared an initial regulatory flexibility analysis (IRFA) that examines the impact of the proposed rule on small entities along with regulatory alternatives that could reduce that impact. The IRFA is available for review as part of the draft RIA for the rule. This is available in the public docket and is summarized below.

3. Summary of Regulated Small Entities

The following section discusses the small entities directly regulated by this proposed rule.

a. Nonroad Diesel Engine Manufacturers

Using information from the industry profile that was conducted for the nonroad diesel sector, EPA identified a total of 61 engine manufacturers. The top 10 engine manufacturers comprise 80 percent of the total market, while the other 51 companies make up the remaining 20 percent.³⁴⁵ Of the 61 manufacturers, four fit the SBA definition of a small entity. These four manufacturers were Anadolu Motors, Farymann Diesel GMBH, Lister-Petter Group, and V & L Tools (parent

company of Wisconsin Motors LLC, formerly “Wis-Con Total Power”). These businesses comprise 8 percent of the total engine sales for the year 2000.

b. Nonroad Diesel Equipment Manufacturers

To determine the number of equipment manufacturers, EPA also used the industry profile that was conducted. From this, EPA identified over 700 manufacturers with sales and/or employment data that could be included in the screening analysis. These businesses included manufacturers in the construction, agricultural, and outdoor power equipment (mainly, lawn and garden equipment) sectors of the nonroad diesel market. The equipment produced by these manufacturers ranged from small walk-behind equipment (sub-25 hp engines) to large mining and construction equipment (using engines in excess of 750 hp). Of the manufacturers with available sales and employment data (approximately 500 manufacturers), small equipment manufacturers represent 68 percent of total equipment manufacturers (and these manufacturers account for 11 percent of nonroad diesel equipment industry sales). Thus, the majority of the small entities that could potentially experience a significant impact as a result of this rulemaking are in the nonroad equipment manufacturing sector.

c. Nonroad Diesel Fuel Refiners

Our current assessment is that 26 refiners (collectively owning 33 refineries) meet SBA’s definition of a small business for the refining industry. The 33 refineries appear to meet both the employee number and production volume criteria mentioned above. These small refiners currently produce approximately 6 percent of the total high-sulfur diesel fuel. It should be noted that because of the dynamics in the refining industry (*e.g.*, mergers and acquisitions), the actual number of refiners that ultimately qualify for small

refiner status under a future nonroad diesel sulfur program could be different than this initial estimate.

d. Nonroad Diesel Fuel Distributors and Marketers

The industry that transports, distributes, and markets nonroad diesel fuel encompasses a wide range of businesses, including bulk terminals, bulk plants, fuel oil dealers, and diesel fuel trucking operations, and totals thousands of entities that have some role in this activity. More than 90 percent of these entities would meet small entity criteria. Common carrier pipeline companies are also a part of the distribution system; 10 of them are small businesses.

4. Potential Reporting, Recordkeeping, and Compliance

As with any emission control program, the Agency must have the assurance that the regulated entities will meet the emissions standards and all related provisions. For engine and equipment manufacturers, EPA is proposing to continue the reporting, recordkeeping, and compliance requirements prescribed for these categories in 40 CFR part 89. Key among these are certification requirements and provisions related to reporting of production, emissions information, use of transition provisions, etc.

For any fuel control program, EPA must have the assurance that fuel produced by refiners meets the applicable standard, and that the fuel continues to meet the standard as it passes downstream through the distribution system to the ultimate end user. This is particularly important in the case of diesel fuel, where the aftertreatment technologies expected to be used to meet the engine standards under consideration are highly sensitive to sulfur. The recordkeeping, reporting and compliance provisions of the proposed rule are fairly consistent with those in place today for other fuel programs, including the current 15 ppm highway diesel regulation. For example,

³⁴⁵ All sales information used for this analysis was 2000 data.

recordkeeping involves the use of product transfer documents, which are already required under the 15 ppm highway diesel sulfur rule (40 CFR 80.560).

5. Relevant Federal Rules

The proposed certification fees rule, through the Agency's Certification and Compliance Division (CCD), may have some impact on the upcoming rule, and the Panel recommended that we take into consideration the effects that this rule may have on small businesses.

The fuel regulations that we expect to propose would be similar in many respects to the existing sulfur standard for highway diesel fuel. We are not aware of any area where the regulations under consideration would directly duplicate or overlap with the existing federal, state, or local regulations; however, several small refiners will also be subject to the gasoline sulfur and highway diesel sulfur control requirements, as well as air toxics requirements.

More stringent nonroad diesel sulfur standards may require some refiners to obtain permits from state and local air pollution control agencies under the Clean Air Act's New Source Review program prior to constructing the desulfurization equipment needed to meet the standards.

The Internal Revenue Service (IRS) has an existing rule that levies taxes on highway diesel fuel only. The rule requires that nonroad diesel (un-taxed) fuel be dyed so that regulators and customers will know which type of fuel is which. Because of the need to separate dyed from undyed diesel fuel, some marketers may choose to install extra tanks. Therefore, fuel marketers have claimed that, if two grades of nonroad fuel are allowed in the marketplace, they may decide to maintain two segregated tanks for both nonroad (dyed 500 ppm and dyed 15 ppm) and highway diesel fuels (undyed 500 ppm and undyed 15 ppm), during the transition periods for both of these fuels.

6. Summary of SBREFA Panel Process and Panel Outreach

a. Significant Panel Findings

The Small Business Advocacy Review Panel (SBAR Panel, or the Panel) considered many regulatory options and flexibilities that would help mitigate potential adverse effects on small businesses as a result of this rule. During the SBREFA Panel process, the Panel sought out and received comments on the regulatory options and flexibilities that were presented to SERs

and Panel members. The major flexibilities and hardship relief provisions that are recommended by the Panel, along with specific recommendations by individual Panel members, are described below and are also located in Section 9 of the SBREFA Final Panel Report which is available in the public docket.³⁴⁶

b. Panel Process

As required by section 609(b) of the RFA, as amended by SBREFA, we also conducted outreach to small entities and convened a SBAR Panel to obtain advice and recommendations of representatives of the small entities that potentially would be subject to the rule's requirements.

On October 24, 2002, EPA's Small Business Advocacy Chairperson convened a Panel under Section 609(b) of the RFA. In addition to the Chair, the Panel consisted of the Deputy Director of EPA's Office of Transportation and Air Quality, the Chief Counsel for Advocacy of the Small Business Administration, and the Administrator of the Office of Information and Regulatory Affairs within the Office of Management and Budget. As part of the SBAR Panel process, we conducted outreach with representatives from the various small entities that would be affected by the proposed rulemaking. We met with these Small Entity Representatives (SERs) to discuss the potential rulemaking approaches and ways to decrease the impact of the rulemaking on their industries. We distributed outreach materials-including background on the nonroad diesel sector, possible regulatory approaches, and possible rulemaking alternatives to the SERs on October 30, 2002. On November 13, 2002 the Panel met with the SERs to discuss the outreach materials and receive initial feedback on the approaches and alternatives detailed in the outreach packet. The Panel received written comments from the SERs following the meeting in response to discussions had at the meeting and the questions posed to the SERs by the Agency. The SERs were specifically asked to provide comment on regulatory alternatives that could help to minimize the impact on small businesses as a result of the rulemaking.

In general, SERs representing the nonroad diesel equipment manufacturers raised concerns about the added cost of compliance and the increase in size of compliant engines

(and how this would affect their products). SERs representing the nonroad diesel fuel industry raised comments that generally included anticipated difficulty in going to a lower grade of fuel and the need for increased tankage to carry interim grades of fuel. All SERs raised concerns that small entities do not have the capital and have fewer resources which make compliance difficult. Thus, they maintain that there is a need to provide alternatives and provisions to address these issues, as (per their view) more stringent emission standards could impose more significant adverse impacts on small entities than on large businesses. (For the most part, EPA has not found the facts to support these contentions in this proposal, and thus is not proposing separate provisions applicable only to small entities.)

The Panel's findings and discussions are based on the information that was available during the term of the Panel and issues that were raised by the SERs during the outreach meetings and in their comments. It was agreed that EPA should consider the issues raised by the SERs (and discussions had by the Panel itself) and that EPA should consider comments on flexibility alternatives that would help to mitigate any negative impacts on small businesses.

Alternatives discussed throughout the Panel process include those offered in previous or current EPA rulemakings, as well as alternatives suggested by SERs and Panel members, and the Panel recommended that all be considered in the development of the rule. Though some of the flexibilities suggested may be appropriate to apply to all entities affected by the rulemaking, the Panel's discussions and recommendations are focused mainly on the impacts, and ways to mitigate adverse impacts, on small businesses. In addition some of the provisions, such as the equipment manufacturer transition provision, that apply to all entities also help to mitigate the effects on small entities. A summary of these recommendations is detailed below, and a full discussion of the regulatory alternatives and hardship provisions discussed and recommended by the Panel can be found in the SBREFA Final Panel Report. A complete discussion of the transition and hardship provisions that we are proposing in today's action can be found in Sections VII.C and III.A of this preamble. Also, the Panel Report includes all comments received from SERs (Appendix B of the Report), a summary of those comments (Section 8), and summaries of the two outreach meetings that were held with the SERs

³⁴⁶ Final Panel Report of the Small Business Advocacy Review Panel on EPA's Proposed Rule: Control of Emissions of Air Pollution From Land-Based Nonroad Compression Ignition Engines, December 23, 2003.

(Appendices C and D). In accordance with the RFA/SBREFAs requirements, the Panel evaluated the aforementioned materials and SER comments on issues related to the Initial Regulatory Flexibility Analysis (IRFA). The following sections describe the Panel recommendations, along with specific recommendations by individual Panel members, from the SBAR Panel Report.

c. Transition Flexibilities

The Panel recommended that EPA consider and seek comment on a wide range of regulatory alternatives to mitigate the impacts of the rulemaking on small businesses, including those flexibility options described below. As previously stated, the following discussion is a summary of the SBAR Panel recommendations; our proposals regarding these recommendations are located in earlier sections of this rule preamble.

i. Nonroad Diesel Engines

(a) Transition Flexibility Alternatives for Small Engine Manufacturers

The Panel recommended the following transition flexibilities to be considered, which were dependent upon what approach, or approaches, EPA proposes for the rulemaking.

- For an approach with two phases of standards:
 - An engine manufacturer could skip the first phase and comply on time with the second; or,
 - a manufacturer could delay compliance with each phase of standards.
 - For an approach that entails only one phase of standards, the manufacturer could opt to delay compliance. The Panel recommended that the length of the delay be a three year period; the Panel also recommended that EPA take comment on whether this delay period should be two, three, or four years. Each delay would be pollutant specific (*i.e.*, the delay would apply to each pollutant as it is phased in).

(b) Hardship Provisions for Small Engine Manufacturers

The Panel also recommended that two types of hardship provisions be extended to small engine manufacturers. These provisions are:

- For the case of a catastrophic event, or other extreme unforeseen circumstances, beyond the control of the manufacturer that could not have been avoided with reasonable discretion (*i.e.* fire, tornado, supplier not fulfilling contract, etc.); and
- For the case where a manufacturer has taken all reasonable business,

technical, and economic steps to comply but cannot do so.

Either relief provision would provide lead time for up to 2 years—in addition to the transition flexibilities listed above—and a manufacturer would have to demonstrate to the Agency's satisfaction that failure to sell the noncompliant engines would jeopardize the company's solvency. EPA could require that the manufacturer make up the lost environmental benefit through the use of programs such as supplemental environmental projects.

For the transition flexibilities listed above, the Panel recommended that engine manufacturers and importers must have certified engines in model year 2002 or earlier in order to take advantage of these provisions. Each manufacturer would be limited to 2500 units per year. This number allows for some market growth. The Panel recommended these provisions in order to prohibit the misuse of these transition provisions as a tool to enter the nonroad diesel market or to gain unfair market position relative to other manufacturers.

(c) Other Small Engine Manufacturer Issues

It was also recommended by the SBAR Panel that an averaging, banking, and trading (ABT) program be included as part of the overall rulemaking program, and, as discussed above, ABT has been included in the program.

During the SBREFA panel process several alternative approaches for engine standards were examined and considered by the panel. See Section 3.1.1 of the SBAR panel report. The SBA Chief Counsel for the Office of Advocacy also offered some observations about the impacts of the standards for engines less than 70 hp on affected small engine and equipment manufacturers which are based on the performance of PM or NO_x advanced aftertreatment devices. While the other Panel members did not join in these observations, the Panel recommended that the Administrator carefully consider these points and examine further the factual, legal and policy questions raised here in developing the proposed rule. First, given the available information, the Office of Advocacy stated that they had substantial doubts about the technical feasibility and cost of engineering aftertreatment devices into a wide diversity of nonroad diesel applications for engines less than 70 hp. They stated that considerable concern has been raised regarding the technical feasibility of PM and NO_x advanced aftertreatment devices, even for larger engines, and particularly in the case of NO_x adsorbers. Second, the low retail

cost and low annual production for many of these applications make it extremely difficult for the equipment manufacturer to absorb these additional costs. The Office of Advocacy believes that, based on the available information, the Agency does not have a sufficient basis to move forward with a proposal that would require nonroad engines under 70 hp to use aftertreatment devices. Based on the SERs' concerns about the technical feasibility of the Tier 4 standards, and the technical information discussed in the Panel report, SBA recommended that we include a technological review of the standards in the 2008 time frame in the rulemaking proposal. The Panel recommended that we consider this recommendation.

The SBA Office of Advocacy stated that considerable concern has been raised regarding the technical feasibility of PM and NO_x aftertreatment devices, particularly in the case of NO_x adsorbers. As explained in the preamble, we have found no factual basis for this statement with respect to PM controls based on use of advanced aftertreatment for engines between 25 and 75 hp. We are not proposing standards based on performance of advanced aftertreatment for engines under 25 hp, and for NO_x, for engines 75 hp and under.

With respect to the PM standards for these engines, however, EPA disagrees with the statement made by the Office of Advocacy that, based on available information, we do not have a sufficient basis to move forward with this proposed rulemaking requiring nonroad engines under 70 hp to use aftertreatment devices. As we have documented in the preamble and elsewhere in this Draft RIA, EPA believes that the standards for PM for engines in these power ranges are feasible at reasonable cost, and will help to improve very important air quality problems, especially by reducing exposure to diesel PM and by aiding in attainment of the PM 2.5 National Ambient Air Quality Standards (NAAQS). Indeed, given these facts, EPA is skeptical that an alternative of no PM standards for these engines would be appropriate under section 213(a)(4). Moreover, the statement regarding cost impacts fails to account for transition flexibilities provided all equipment manufacturers as part of the proposal.

Further discussion of alternative engine standards below 75 hp can be found in Section VI of this preamble and Chapter 11 and 12 of the draft RIA, specifically the discussion of Options 5a and 5b. EPA invites comment on these specific small engine alternatives, as

well as all other alternative options discussed in Section VI of this preamble. We invite comments specifically on the costs of using advanced aftertreatment devices, particularly on engines below 75 hp.

ii. Nonroad Diesel Equipment

(a) Transition Flexibility Alternatives for Small Equipment Manufacturers

The Panel recommended that EPA propose to continue the transition flexibilities offered for the Tier 1 and Tier 2 nonroad diesel emission standards, as set out in 40 CFR 89.102, with some potential modifications. The recommended transition flexibilities are:

- **Percent-of-Production Allowance:** Over a seven model year period, equipment manufacturers may install engines not certified to the new emission standards in an amount of equipment equivalent to 80 percent of one year's production. This is to be implemented by power category with the average determined over the period in which the flexibility is used.

- **Small Volume Allowance:** A manufacturer may exceed the 80 percent allowance in seven years as described above, provided that the previous Tier engine use does not exceed 700 total over seven years, and 200 in any given year. This is limited to one family per power category. Alternatively, at the manufacturer's choice by hp category, a program that eliminates the "single family provision" restriction with revised total and annual sales limits as shown below:

- For categories ≤175 hp—525 previous Tier engines (over 7 years) with an annual cap of 150 units (these engine numbers are separate for each hp category defined in the regulations)

- For categories of >175hp—350 previous Tier engines (over 7 years) with an annual cap of 100 units (these engine numbers are separate for each hp category defined in the regulations).

The Panel recommended that EPA seek comment on the total number of engines and annual cap values listed above.

Specifically, the SBA and OMB Panel members recommended that EPA seek comment on implementing the small volume allowance (700 engine provision) for small equipment manufacturers without a limit on the number of engine families which could be covered in any hp category.

- In addition, due to the changing nature of the technology as the manufacturers transition from Tier 2 to Tier 3 and Tier 4, the Panel recommended that the equipment manufacturers be permitted to borrow from the Tier 3/Tier 4 transition flexibilities for use in the Tier 2/Tier 3 time frame.

To maximize the likelihood that the application of these transition provisions will result in the availability of previous Tier engines for use by the small equipment manufacturers, the Panel recommended that these three provisions be provided to all equipment manufacturers. As explained earlier in the preamble, this is essentially the approach that EPA is proposing.

(b) Hardship Provisions for Small Equipment Manufacturers

The Panel also recommended that two types of hardship provisions be extended to small equipment manufacturers. These are generally the same as provided above for small engine manufacturers:

- For the case of a catastrophic event, or other extreme unforeseen circumstances, beyond the control of the manufacturer that could not have been avoided with reasonable discretion (*i.e.* fire, tornado, supplier not fulfilling contract, etc.); and

- For the case where a manufacturer has taken all reasonable business, technical, and economic steps to comply but cannot. In this case relief would have to be sought before there is

imminent jeopardy that a manufacturer's equipment could not be sold and a manufacturer would have to demonstrate to the Agency's satisfaction that failure to get permission to sell equipment with a previous Tier engine would create a serious economic hardship. Hardship relief of this nature cannot be sought by a manufacturer which also manufactures the engines for its equipment.

Hardship relief would not be available until other allowances have been exhausted. Either relief provision would provide additional lead time for up to 2 model years based on the circumstances, but EPA could require recovery of the lost environmental benefit. To be eligible for the hardship provisions listed above (as well as the flexibilities detailed above), the Panel recommended that equipment manufacturers and importers must have reported equipment sales using certified engines in model year 2002 or earlier. This requirement is to prohibit the misuse of these flexibilities as a loophole to enter the nonroad diesel equipment market or to gain unfair market position relative to other manufacturers.

iii. Nonroad Diesel Fuel Refiners

(a) Regulatory Flexibility Alternatives for Diesel Fuel Refiners

The Panel considered a range of options and regulatory alternatives for providing small refiners with flexibility in complying with new sulfur standards for nonroad diesel fuel. Taking into consideration the comments received on these ideas, as well as additional business and technical information gathered about potentially affected small entities, the Panel recommended that whether EPA proposes a one-step or a two-step approach, EPA should provide for delayed compliance for small refiners as shown below.

SMALL REFINER OPTIONS UNDER 2-STEP NONROAD DIESEL BASE PROGRAMS RECOMMENDED SULFUR STANDARDS

[in parts per million (ppm)]^a

Under 2-step program	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015+
Non-Small ^b	500	500	500	15	15	15	15	15	15
Small	500	500	500	500	15	15

Notes:

^a New standards are assumed to take effect June 1 of the applicable year.

^b Assumes 500 ppm standard for marine + locomotive fuel for non-small refiners for 2007 and later and for small refiners for 2010 and later.

(b) Small Refiner Incentives for Early Compliance

In addition to these standards, the Panel recommended that EPA propose

certain transition provisions to encourage early compliance with the diesel fuel sulfur standards. The Panel recommended that EPA propose that

small refiners be eligible to select one of the two following options:

- **Credits for Early Desulfurization:** The Panel recommended that the

Agency propose, as part of an overall trading program, a credit trading system that allows small refiners to generate and sell credits for nonroad diesel fuel that meets the small refiner standards earlier than that required in the above table. Such credits could be used to offset higher sulfur fuel produced by that refiner or by another refiner that purchases the credits.

- **Limited Relief on Small Refiner Interim Gasoline Sulfur Standards:** The Panel recommended that a small refiner producing its entire nonroad diesel fuel pool at 15 ppm sulfur by June 1, 2006, and that chooses not to generate nonroad credits for its early compliance, receive a 20 percent relaxation in its assigned small refiner interim gasoline sulfur standards. However, the Panel recommended that the maximum per-gallon sulfur cap for any small refiner remain at 450 ppm.

(c) Refiner Hardship Provisions

The Panel recommended that EPA propose refiner hardship provisions modeled after those established under the gasoline sulfur and highway diesel fuel sulfur program (see 40 CFR 80.270 and 80.560). Specifically, the Panel recommended that EPA propose a process that, like the hardship provisions of the gasoline and highway diesel rules, allows refiners to seek case-by-case approval of applications for temporary waivers to the nonroad diesel sulfur standards, based on a demonstration to the Agency of extreme hardship circumstances. This provision would allow domestic and foreign refiners, including small refiners, to request additional flexibility based on a showing of unusual circumstances that result in extreme hardship and significantly affect the ability of the refiner to comply by the applicable date, despite its best efforts.

iv. Nonroad Diesel Fuel Distributors and Marketers

The diesel fuel approach being considered by the Agency includes the possibility of there being two grades of nonroad diesel fuel (500/15 ppm) in the market place for at least a transition period. The distributors support a one-step approach because it has no significant impact on their operations. The distributors offered some suggestions on how they might deal with this issue, but indicated that there would be adverse impact in some circumstances. The Panel recommended that EPA study this issue further. The costs and related issues relevant to fuel distributors are further discussed in Chapter 7 of the proposed rule Regulatory Impact Analysis.

EPA invites comments on all aspects of the proposal and its impacts on the regulated small entities.

D. Unfunded Mandates Reform Act

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), Public Law. 104–4, establishes requirements for Federal agencies to assess the effects of their regulatory actions on State, local, and tribal governments and the private sector. Under section 202 of the UMRA, EPA generally must prepare a written statement, including a cost-benefit analysis, for proposed and final rules with “federal mandates” that may result in expenditures to State, local, and tribal governments, in the aggregate, or to the private sector, of \$100 million or more in any one year. Before promulgating an EPA rule for which a written statement is needed, section 205 of the UMRA generally requires EPA to identify and consider a reasonable number of regulatory alternatives and adopt the least costly, most cost-effective, or least burdensome alternative that achieves the objectives of the rule. The provisions of section 205 do not apply when they are inconsistent with applicable law. Moreover, section 205 allows EPA to adopt an alternative other than the least costly, most cost-effective, or least burdensome alternative if the Administrator publishes with the final rule an explanation of why that alternative was not adopted.

Before EPA establishes any regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, it must have developed under section 203 of the UMRA a small government agency plan. The plan must provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input in the development of EPA regulatory proposals with significant federal intergovernmental mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements.

This rule contains no federal mandates for state, local, or tribal governments as defined by the provisions of Title II of the UMRA. The rule imposes no enforceable duties on any of these governmental entities. Nothing in the rule would significantly or uniquely affect small governments.

EPA has determined that this rule contains federal mandates that may result in expenditures of more than \$100 million to the private sector in any single year. EPA believes that the proposal represents the least costly, most cost-effective approach to achieve

the air quality goals of the rule. The costs and benefits associated with the proposal are discussed above and in the Draft Regulatory Impact Analysis, as required by the UMRA.

E. Executive Order 13132: Federalism

Executive Order 13132, entitled “Federalism” (64 FR 43255, August 10, 1999), requires EPA to develop an accountable process to ensure “meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications.” “Policies that have federalism implications” is defined in the Executive Order to include regulations that have “substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.”

Under Section 6 of Executive Order 13132, EPA may not issue a regulation that has federalism implications, that imposes substantial direct compliance costs, and that is not required by statute, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by State and local governments, or EPA consults with State and local officials early in the process of developing the proposed regulation. EPA also may not issue a regulation that has federalism implications and that preempts State law, unless the Agency consults with State and local officials early in the process of developing the proposed regulation.

Section 4 of the Executive Order contains additional requirements for rules that preempt State or local law, even if those rules do not have federalism implications (*i.e.*, the rules will not have substantial direct effects on the States, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government). Those requirements include providing all affected State and local officials notice and an opportunity for appropriate participation in the development of the regulation. If the preemption is not based on express or implied statutory authority, EPA also must consult, to the extent practicable, with appropriate State and local officials regarding the conflict between State law and Federally protected interests within the agency’s area of regulatory responsibility.

This proposed rule does not have federalism implications. It will not have substantial direct effects on the States, on the relationship between the national

government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132.

Although Section 6 of Executive Order 13132 does not apply to this rule, EPA did consult with representatives of various State and local governments in developing this rule. EPA has also consulted representatives from STAPPA/ALAPCO, which represents state and local air pollution officials.

In the spirit of Executive Order 13132, and consistent with EPA policy to promote communications between EPA and State and local governments, EPA specifically solicits comment on this proposed rule from State and local officials.

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

Executive Order 13175, entitled "Consultation and Coordination with Indian Tribal Governments" (65 FR 67249, November 6, 2000), requires EPA to develop an accountable process to ensure "meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications."

This proposed rule does not have tribal implications as specified in Executive Order 13175. This rule will be implemented at the Federal level and impose compliance costs only on engine manufacturers and ship builders. Tribal governments will be affected only to the extent they purchase and use equipment with regulated engines. Thus, Executive Order 13175 does not apply to this rule. EPA specifically solicits additional comment on this proposed rule from tribal officials.

G. Executive Order 13045: Protection of Children From Environmental Health and Safety Risks

Executive Order 13045, "Protection of Children from Environmental Health Risks and Safety Risks" (62 FR 19885, April 23, 1997) applies to any rule that (1) is determined to be "economically significant" as defined under Executive Order 12866, and (2) concerns an environmental health or safety risk that EPA has reason to believe may have a disproportionate effect on children. If the regulatory action meets both criteria, Section 5-501 of the Order directs the Agency to evaluate the environmental health or safety effects of the planned rule on children, and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by the Agency.

This proposed rule is not subject to the Executive Order because it does not involve decisions on environmental health or safety risks that may disproportionately affect children.

The effects of ozone and PM on children's health were addressed in detail in EPA's rulemaking to establish the NAAQS for these pollutants, and EPA is not revisiting those issues here. EPA believes, however, that the emission reductions from the strategies proposed in this rulemaking will further reduce air toxic emissions and the related adverse impacts on children's health.

H. Executive Order 13211: Actions that Significantly Affect Energy Supply, Distribution, or Use

This rule is not a "significant energy action" as defined in Executive Order 13211, "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use" (66 FR 28355 (May 22, 2001)) because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. If promulgated, this proposed rule would decrease fuel production by less than 4000 barrels per day and would increase fuel production costs, distribution costs, and prices by less than ten percent. The reader is referred to Section V above for the estimated cost, price and production impacts of the proposed fuel program.

I. National Technology Transfer Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 ("NTTAA"), Public Law 104-113, section 12(d) (15 U.S.C. 272 note) directs EPA to use voluntary consensus standards in its regulatory activities unless doing so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standards bodies. NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable voluntary consensus standards.

This proposed rule involves technical standards. The following paragraphs describe how we specify testing procedures for engines subject to this proposal.

The International Organization for Standardization (ISO) has a voluntary consensus standard that can be used to test nonroad diesel engines. However, the current version of that standard (ISO 8178) is applicable only for steady-state

testing, not for transient testing. As described in the Draft Regulatory Impact Analysis, transient testing is an important part of the proposed emission-control program for these engines. We are therefore not proposing to adopt the ISO procedures in this rulemaking.

EPA welcomes comments on this aspect of the proposed rulemaking and, specifically, invites the public to identify potentially applicable voluntary consensus standards and to explain why such standards should be used in this regulation.

J. Plain Language

This document follows the guidelines of the June 1, 1998 Executive Memorandum on Plain Language in Government Writing. To read the text of the regulations, it is also important to understand the organization of the Code of Federal Regulations (CFR). The CFR uses the following organizational names and conventions.

Title 40—Protection of the Environment
Chapter I—Environmental Protection Agency

Subchapter C—Air Programs. This contains parts 50 to 99, where the Office of Air and Radiation has usually placed emission standards for motor vehicle and nonroad engines.

Subchapter U—Air Programs Supplement. This contains parts 1000 to 1299, where we intend to place regulations for air programs in future rulemakings.

Part 1039—Control of Emissions from New Nonroad Compression-ignition Engines. Most of the provisions in this part apply only to engine manufacturers.

Part 1065—General Test Procedures for Engine Testing. Provisions of this part apply to anyone who tests engines to show that they meet emission standards.

Part 1068—General Compliance Provisions for Engine Programs. Provisions of this part apply to everyone.

Each part in the CFR has several subparts, sections, and paragraphs. The following illustration shows how these fit together.

Part 1039

Subpart A

§ 1039.1

(a)

(b)

(1)

(2)

(i)

(ii)

A cross reference to § 1039.1(b) in this illustration would refer to the parent paragraph (b) and all its subordinate paragraphs. A reference to “§ 1039.1(b) introductory text” would refer only to the single, parent paragraph (b).

XI. Statutory Provisions and Legal Authority

Statutory authority for the engine controls proposed today can be found in sections 213 (which specifically authorizes controls on emissions from nonroad engines and vehicles), 203–209, 216 and 301 of the CAA, 42 U.S.C. 7547, 7522, 7523, 7424, 7525, 7541, 7542, 7543, 7550 and 7601.

Statutory authority for the proposed fuel controls is found in sections 211(c) and 211(i) of the CAA, which allow EPA to regulate fuels that either contribute to air pollution which endangers public health or welfare or which impair emission control equipment which is in general use or has been in general use. 42 U.S.C. 7545 (c) and (i). Additional support for the procedural and enforcement-related aspects of the fuel controls in the proposed rule, including the record keeping requirements, comes from sections 114(a) and 301(a) of the CAA. 42 U.S.C. sections 7414(a) and 7601(a).

List of Subjects

40 CFR Part 69

Environmental protection, Air pollution controls.

40 CFR Part 80

Fuel additives, Gasoline, Imports, Labeling, Motor vehicle pollution, Penalties, Reporting and recordkeeping requirements.

40 CFR Part 89

Environmental protection, Administrative practice and procedure, Confidential business information, Imports, Labeling, Motor vehicle pollution, Reporting and recordkeeping requirements, Research, Vessels, Warranties.

40 CFR Part 1039

Environmental protection, Administrative practice and procedure, Confidential business information, Imports, Labeling, Motor vehicle pollution, Reporting and recordkeeping requirements, Research, Vessels, Warranties.

40 CFR Part 1068

Environmental protection, Administrative practice and procedure, Incorporation by reference, Reporting and recordkeeping requirements, Research.

40 CFR Part 1068

Environmental protection, Administrative practice and procedure, Confidential business information, Imports, Motor vehicle pollution, Penalties, Reporting and recordkeeping requirements, Warranties.

Dated: April 15, 2003.

Christine Todd Whitman,

Administrator.

For the reasons set forth in the preamble, we propose to amend parts 69, 80, 89, 1039, 1065, and 1068 of title 40 of the Code of Federal Regulations as follows:

PART 69—SPECIAL EXEMPTIONS FROM THE REQUIREMENTS OF THE CLEAN AIR ACT

1. The authority citation for part 69 is revised to read as follows:

Authority: 42 U.S.C. 7545(c), (g) and (i), and 7625–1.

Subpart E—[Amended]

2. Section 69.51 is revised to read as follows:

§ 69.51 Motor vehicle diesel fuel.

(a) Diesel fuel that is designated for use only in Alaska and is used only in Alaska, is exempt from the sulfur standard of 40 CFR 80.29(a)(1) and the dye provisions of 40 CFR 80.29(a)(3) and 40 CFR 80.29(b) until the implementation dates of 40 CFR 80.500, provided that:

(1) The fuel is segregated from nonexempt diesel fuel from the point of such designation; and

(2) On each occasion that any person transfers custody or title to the fuel, except when it is dispensed at a retail outlet or wholesale purchaser-consumer facility, the transferor must provide to the transferee a product transfer document stating:

This diesel fuel is for use only in Alaska. It is exempt from the federal low sulfur standards applicable to highway diesel fuel and red dye requirements applicable to non-highway diesel fuel only if it is used in Alaska.

(b) Beginning on the implementation dates in 40 CFR 80.500, motor vehicle diesel fuel that is designated for use in Alaska or is used in Alaska, is subject to the applicable provisions of 40 CFR part 80, Subpart I, except the language of product transfer documents under 40 CFR 80.590 and pump dispenser labels under 40 CFR 80.570(a) and (b) may be modified, as applicable, to reflect the fact that certain motor vehicle and non-motor vehicle diesel fuels or heating oil that would otherwise be required to be segregated due to the red dye

requirement for non-motor vehicle fuels under §§ 80.510(c) and 80.520(b)(2) are permitted to be commingled, distributed and dispensed as one fuel, due to the exemption from the red dye requirement under 40 CFR 69.52(b) and (c), if they meet the same sulfur and cetane and/or aromatics standards as the motor vehicle diesel fuel.

(c) The Governor of Alaska may submit for EPA approval, by April 1, 2002, a plan for implementing the motor vehicle sulfur standard in Alaska as an alternative to the temporary compliance option provided under §§ 80.530–80.532. If EPA approves an alternative plan, the provisions as approved by EPA under that plan shall apply to the diesel fuel subject to this paragraph (b).

3. A new § 69.52 is added to read as follows:

§ 69.52 Non-motor vehicle diesel fuel.

(a) *Definitions.* (1) *Areas accessible by the Federal Aid Highway System* are the geographical areas of Alaska designated by the State of Alaska as being accessible by the Federal Aid Highway System.

(2) *Areas not accessible by the Federal Aid Highway System* are all other geographical areas of Alaska.

(3) *Nonroad, locomotive, or marine diesel fuel* shall have the same meaning as provided in 40 CFR 80.2.

(b) Non-motor vehicle diesel fuel and heating oil that is used or intended for use in areas of Alaska accessible by the Federal Aid Highway System is subject to the provisions of 40 CFR Part 80, Subpart I, except:

(1) The fuel is exempt from the red dye requirements, and the presumptions associated with the red dye requirements, under §§ 80.510(c) and 80.520(b)(2). Exempt fuel under this paragraph (b) must be segregated from motor vehicle diesel fuel, unless it meets the same sulfur standard and applicable cetane and/or aromatics standards as the motor vehicle diesel fuel and it is not marked by yellow solvent 124 under §§ 80.510 and 80.511.

(2) The language of product transfer documents under 40 CFR 80.590 and pump dispenser labels under 40 CFR 80.570–80.573 may be modified, as applicable, to reflect the fact that the fuel is exempt from the red dye requirement under paragraph (b) (1) of this section, and that the exempt fuel that would otherwise be required to be segregated from motor vehicle diesel fuel is permitted to be commingled, distributed and dispensed with the motor vehicle fuel if it meets the same sulfur standard and applicable cetane and/or aromatics standards as the motor vehicle fuel and is not marked by

yellow solvent 124 under §§ 80.510 and 80.511. Further, the following language shall be added to the product transfer documents: "Exempt from red dye requirement applicable to diesel fuel for non-highway purposes if it is used only in Alaska."

(3) For purposes of calculating a non-highway baseline percentage under 40 CFR 80.533, Alaska refiners and importers:

(i) Must declare under 40 CFR 80.533(c)(i)(C), as applicable, that the fuel was exempt under 69.52 from the dye provisions and did not meet the definition of motor vehicle diesel fuel; and

(ii) As an alternative to the submission of batch data for the baseline period under 40 CFR 80.533(c), may assume 30 percent for the non-highway baseline percentage.

(c) Non-motor vehicle diesel fuel and heating oil that is designated for use only in areas of Alaska not accessible by the Federal Aid Highway System, or is used only in areas of Alaska not accessible by the Federal Aid Highway System, is excluded from the applicable provisions of 40 CFR Part 80, Subpart I; except that:

(1) All model year 2011 and later nonroad diesel engines and equipment must be fueled only with diesel fuel that meets the specifications of § 80.510(b), and the product transfer document requirements under 40 CFR 80.590 and pump dispenser labels under 40 CFR 80.570–80.573, except that, (i) The language of product transfer documents under 40 CFR 80.590 and pump dispenser labels under 40 CFR 80.570–80.573 may be modified, as applicable, to reflect the fact that the fuel is undyed and unmarked, and that diesel fuel for motor vehicles, nonroad equipment, locomotive or marine engines, and heating oil that meet the same sulfur, cetane and/or aromatics standards that would otherwise be required to be segregated are permitted to be commingled, distributed and dispensed as one fuel under this section (c), and

(ii) The following language shall be added to the product transfer documents: "Exempt from red dye requirement applicable to diesel fuel for non-highway purposes if it is used only in Alaska."

(2) Diesel fuel that is exempt under this section, except when paragraph (c)(1) of this section applies, must meet the requirements for product transfer documents under 40 CFR 80.590, except the following language shall be substituted for the language specified under (a)(5) of that section:

(i) Until August 31, 2010:

This diesel fuel is for use only in those areas of Alaska not accessible by the Federal Aid Highway System. It is exempt from the federal sulfur standards applicable to highway, nonroad, locomotive and marine diesel fuel, and the red dye requirements applicable to non-highway diesel fuel. It may not be used in model year 2007 and newer highway vehicles.

(ii) After August 31, 2010:

This diesel fuel is for use only in those areas of Alaska not accessible by the Federal Aid Highway System. It is exempt from the federal sulfur standards applicable to highway, nonroad, locomotive and marine diesel fuel, and the red dye requirements applicable to non-highway diesel fuel. It may not be used in model year 2007 and newer highway vehicles or in model year 2011 and newer nonroad equipment.

(3) Diesel fuel that is exempt under this section, except when paragraph (c)(1) of this section applies, must meet the labeling requirements under §§ 80.570–80.573, except the following language shall be substituted for the language on the labels:

(i) Until August 31, 2010:

HIGH-SULFUR DIESEL FUEL

(May Exceed 500 ppm)

WARNING

Federal Law *Prohibits* Use in Model Year 2007 and Newer Highway Vehicles.

(ii) After August 31, 2010

HIGH-SULFUR DIESEL FUEL

(May Exceed 500 ppm)

WARNING

Federal Law *Prohibits* Use in Any Highway Vehicle or in Any Model Year 2011 and Newer Nonroad Engine.

PART 80—REGULATION OF FUELS AND FUEL ADDITIVES

4. The authority citation for part 80 continues to read as follows:

Authority: 42 U.S.C. 7414, 7545 and 7601(a).

5. Section 80.2 is amended by revising paragraphs (f), (j), (o), (x), (y), (nn), and (xx) and adding paragraphs (yy) through (ooo) to read as follows:

§ 80.2 Definitions

* * * * *

(f) *Previously certified diesel fuel* or *PCD* means diesel fuel that previously has been included by a refiner or importer in a batch for purposes of complying with the standards and requirements of subpart I of this part.

* * * * *

(j) *Retail outlet* means any establishment, whether stationary or mobile, at which gasoline, diesel fuel,

methanol, natural gas or liquified petroleum gas is sold or offered for sale for use in motor vehicles, nonroad engines, locomotive engines or marine engines.

* * * * *

(o) *Wholesale purchaser-consumer* means any organization that is an ultimate consumer of gasoline, diesel fuel, methanol, natural gas, or liquified petroleum gas and which purchases or obtains gasoline, diesel fuel, natural gas or liquified petroleum gas from a supplier for use in motor vehicles, nonroad engines, locomotive engines or marine engines and, in the case of gasoline, diesel fuel, methanol or liquified petroleum gas, receives delivery of that product into a storage tank of at least 550-gallon capacity substantially under the control of that organization.

* * * * *

(x) *Diesel fuel* means any fuel sold in any State or Territory of the United States and suitable for use in diesel engines, and which is commonly or commercially known or sold as number 1 or number 2 diesel fuel, or any distillate or nondistillate fuel that has comparable physical or chemical properties.

* * * * *

(nn) *Batch of diesel fuel* means a quantity of diesel fuel which is homogeneous with regard to those properties that are specified for motor vehicle, nonroad, locomotive or marine diesel fuel under subpart I of this part.

* * * * *

(xx) *Diesel fuel additive* means any substance not composed solely of carbon and/or hydrogen, or of diesel blendstocks, that is added, intended for adding, used, or offered for use in motor vehicle diesel fuel or NRLM diesel fuel subsequent to the production of diesel fuel by processing crude oil from refinery processing units, or in diesel motor vehicle or NRLM fuel systems.

(yy) [Reserved]

(zz) [Reserved]

(aaa) [Reserved]

(bbb) *Nonroad (NR) diesel fuel* means any diesel fuel, or any distillate product, that is used, intended for use, or made available for use, as a fuel in land based diesel engines subject to the provisions of either 40 CFR part 89 or part 1039.

(ccc) *Locomotive and marine (LM) diesel fuel* means any diesel fuel, or any distillate product, that is used, intended for use, or made available for use, as a fuel in diesel engines subject to the provisions of either 40 CFR part 92 or part 94, or marine diesel engines subject to the provisions of part 89.

(ddd) *Nonroad, locomotive, and marine (NRLM) diesel fuel* means any diesel fuel, or any distillate product, that is used, intended for use, or made available for use, as a fuel in diesel engines subject to the provisions of either 40 CFR part 89, part 92, part 94, or part 1039.

(eee) *Heating oil* means any number 1 or number 2 distillate (other than jet fuel) that does not meet the definitions of motor vehicle, nonroad, locomotive, marine or NRLM diesel fuel. For example, heating oil can include fuel suitable for use in furnaces, boilers, stationary diesel engines, and similar applications and which is commonly or commercially known or sold as heating oil, fuel oil, and similar trade names.

(fff) *Diesel fuel blending stock, blendstock, or component* means any liquid compound which is blended with other liquid compounds to produce diesel fuel.

(ggg) *Transmix* means an interface mixture in a product pipeline that cannot practicably be added to either of the adjoining products that produced the interface and still meet product specifications and standards. For example, a mixture of gasoline and diesel fuel would generally be considered transmix.

(hhh)–(iii) [Reserved]

(jjj) *Fuel marker* means the fuel marker required in heating oil from 2007 through 2010 pursuant to § 80.510(c)(1) and in locomotive and marine diesel fuel from 2010 through 2014 pursuant to the requirements of § 80.510(c)(2).

(kkk) *Solvent yellow 124* means N-ethyl-N-[2-[1-(2-methylpropoxy)ethoxy]-4-phenylazo]-benzeneamine.

(lll) *Nonroad diesel engine* means, for the purposes of subpart I of this part only, a land-based nonroad diesel engine subject to the provisions of either 40 CFR part 89 or part 1039.

(mmm) *Locomotive diesel engine* means, for purposes of subpart I of this part only, a diesel engine subject to the provisions of 40 CFR part 92.

(nnn) *Marine diesel engine* means, for purposes of subpart I of this part only, a marine diesel engine subject to the provisions of either 40 CFR part 89 or 40 CFR part 94.

(ooo) *Transmix processor* means a refiner who produces diesel fuel or gasoline from transmix.

6. Section 80.230 is amended by revising paragraphs (b)(1) and (b)(2) to read as follows:

§ 80.230 Who is not eligible for the hardship provisions for small refiners?

* * * * *

(b)(1)(i) Refiners who qualify as small under § 80.225, and subsequently employ more than 1,500 people as a result of merger with or acquisition of or by another entity, or exceed the 155,000 bpcd crude capacity limit as a result of merger with or acquisition of or by another entity after January 1, 2004, are disqualified as small refiners. If this occurs the refiner shall notify EPA in writing no later than 20 days following this disqualifying event.

(ii) Except as provided under paragraph (b)(1)(iii) of this section, any refiner whose status changes under this paragraph shall meet the applicable standards of § 80.195 within a period of up to 24 months of the disqualifying event for any of its refineries that were previously subject to the small refiner standards of § 80.240(a). However, such period shall not extend later than December 31, 2007, or, for refineries for which the Administrator has approved an extension of the small refiner gasoline sulfur standards under § 80.553(c), December 31, 2010.

(iii) A refiner may apply to EPA for additional time to comply with the standards of § 80.195 if more than 24 months would be required for the necessary engineering, permitting, construction, and start-up work to be completed. Such applications must include detailed technical information supporting the need for additional time and a proposed amount of additional time. EPA will base a decision to approve additional time on information provided by the refiner and on other relevant information. In no case will EPA extend the compliance date beyond December 31, 2007, or, for refineries for which the Administrator has approved an extension of the small refiner gasoline sulfur standards under § 80.553(c), December 31, 2010.

(2) Any refiner who qualifies as small under § 80.225 may elect to meet the standards under § 80.195 by notifying EPA in writing no later than November 15 prior to the year the change will occur. Any refiner whose status changes under this paragraph shall meet the standards under § 80.195 beginning with the first averaging period subsequent to the status change.

* * * * *

7. Section 80.240 is amended by adding paragraph (f) to read as follows:

§ 80.240 What are the small refiner gasoline sulfur standards?

* * * * *

(f)(1) In the case of a refiner without approved small refiner status under § 80.235 who acquires a refinery from a refiner with approved small refiner status, the applicable small refiner

standards under paragraph (a) of this section will apply to the acquired small refinery for a period up to 24 months from the date of acquisition of the refinery, but no later than December 31, 2007, or, for a refinery for which the Administrator has approved an extension of the small refinery gasoline sulfur standards under § 80.553(c), December 31, 2010, after which time the standards of § 80.195 shall apply to the acquired refinery.

(2) A refiner may apply to EPA for additional time to comply with the standards of § 80.195 for the acquired refinery if more than 24 months would be required for the necessary engineering, permitting, construction, and start-up work to be completed. Such applications must include detailed technical information supporting the need for additional time and a proposed amount of additional time. EPA will base a decision to approve additional time on information provided by the refiner and on other relevant information. In no case will EPA extend the compliance date beyond December 31, 2007, or, for a refinery for which the Administrator has approved an extension of the small refiner gasoline sulfur standards under § 80.553(c), December 31, 2010.

8. Section 80.500 is amended by revising the section heading to read as follows:

§ 80.500 What are the implementation dates for the motor vehicle diesel fuel sulfur control program?

9. Section 80.501 is amended by revising paragraph (a) to read as follows:

§ 80.501 What diesel fuel is subject to the provisions of this subpart?

(a) *Included fuel and additives.* The provisions of this subpart apply to motor vehicle diesel fuel as defined in § 80.2(y); nonroad, locomotive, or marine diesel fuel as defined in § 80.2(ddd); diesel fuel additives as defined in § 80.2(xx), heating oil as defined in § 80.2(eee), and motor oil that is used as or intended for use as fuel in diesel motor vehicles or nonroad, locomotive, or marine engines or is blended with diesel fuel for use in diesel motor vehicles or nonroad, locomotive, or marine engines at any downstream location, as provided in § 80.522.

* * * * *

10. A new § 80.510 is added to read as follows:

§ 80.510 What are the standards and marker requirements for nonroad, locomotive, and marine diesel fuels?

(a) *Beginning June 1, 2007.* Except as otherwise specifically provided in this

subpart, all NRLM diesel fuel is subject to the following per-gallon standards:

(1) Sulfur content. 500 parts per million (ppm) maximum.

(2) Cetane index and aromatic content.

(i) A minimum cetane index of 40; or

(ii) A maximum aromatic content of 35 volume percent.

(b) *Beginning June 1, 2010.* Except as otherwise specifically provided in this subpart, all NR diesel fuel is subject to the following per-gallon standards:

(1) Sulfur content. 15 parts per million (ppm) maximum.

(2) Cetane index and aromatic content.

(i) A minimum cetane index of 40; or

(ii) A maximum aromatic content of 35 volume percent.

(c) *Marker provisions.* (1) Beginning June 1, 2007, or June 1, 2006, as applicable under § 80.534, and prior to June 1, 2010:

(i) A refiner or importer shall add 6 milligrams per liter of solvent yellow 124 to any heating oil.

(ii) All NRLM and motor vehicle diesel fuel produced by a refiner or imported by an importer shall be free of solvent yellow 124.

(iii) Any diesel fuel that contains greater than or equal to 0.1 milligrams per liter of solvent yellow 124 shall be deemed to be heating oil and shall be prohibited from use in any motor vehicle, nonroad, locomotive, or marine diesel engine.

(iv) Any diesel fuel that contains less than 0.1 milligrams per liter of solvent yellow 124 shall be considered motor vehicle diesel fuel, NR, LM, or NRLM, as appropriate.

(2) Beginning June 1, 2010 and prior to June 1, 2014:

(i) A refiner or importer shall add 6 milligrams per liter of solvent yellow 124 to any LM diesel fuel.

(ii) All NR produced by a refiner or imported by an importer shall be free of solvent yellow 124.

(iii) Any diesel fuel which contains greater than or equal to 0.1 milligrams per liter of solvent yellow 124 shall be deemed to be LM diesel and shall be prohibited from use in any motor vehicle or nonroad diesel engine.

(iv) Any diesel fuel which contains less than 0.1 milligrams per liter of solvent yellow 124 shall be considered other than locomotive and marine diesel fuel and subject to the applicable requirements.

(d) Pursuant and subject to the provisions of §§ 80.536, 80.554, 80.560, and 80.561:

(1) Until June 1, 2010, nonroad, locomotive, and marine NRLM diesel fuel produced or imported in full

compliance with the requirements of those sections is exempt from the per-gallon sulfur content standard and cetane or aromatics standard of paragraph (a) of this section;

(2) Until June 1, 2014, NR diesel fuel produced or imported in full compliance with the requirements of those sections is exempt from the per-gallon standards of paragraph (b) of this section but is subject to a per-gallon standards for sulfur content, cetane, and aromatics of paragraph (a) of this section.

11. A new § 80.511 is added to read as follows:

§ 80.511 What are the per-gallon and marker requirements that apply to nonroad, locomotive, and marine diesel fuels and heating oil downstream of the refinery or importer?

(a) *Applicable dates for marker requirements at downstream locations.*

(1) From June 1, 2006 through May 31, 2010, all NRLM shall contain less than 0.10 milligrams per liter of the marker solvent yellow 124.

(2) Beginning June 1, 2010, all NR diesel fuel shall contain less than 0.10 milligrams per liter of the marker solvent yellow 124.

(b) *Applicable dates for per-gallon standards at downstream locations.* All NR, LM, and NRLM diesel fuel at any downstream location shall comply with the same per-gallon sulfur content and cetane index or aromatics standard ("per-gallon standards" for purposes of this section) of § 80.510, except as follows:

(1)(i) The per-gallon standards of § 80.510(a) shall apply beginning August 1, 2007 for all downstream locations other than retail outlets or wholesale purchaser-consumer facilities, and shall apply starting October 1, 2007 for retail outlets and wholesale purchaser-consumer facilities.

(ii) The per-gallon standards of § 80.510(b) shall apply beginning July 15, 2010 for all downstream locations other than retail outlets or wholesale purchaser-consumer facilities, and shall apply starting September 1, 2010 for retail outlets and wholesale purchaser-consumer facilities.

(2) Prior to July 15, 2010 at all downstream locations other than retail outlets and wholesale purchaser-consumer facilities and prior to September 1, 2010 at retail outlets and wholesale purchaser-consumer facilities, the 500 ppm per-gallon standard of § 80.510(a) shall not apply at downstream locations once the diesel fuel has been dyed red per Internal Revenue Service Code (26 U.S.C. 4082)

for any fuel that was produced or imported pursuant to the provisions of § 80.536(f) or § 80.554(a) or mixed with fuel produced pursuant to these provisions.

(3) Beginning December 1, 2014, all NR diesel fuel at all downstream locations shall comply with the sulfur standard of § 80.510(b).

(c) *Fuel redesignated at a downstream location.* Subject to the provisions of § 80.527, nonroad, locomotive, and marine diesel fuel may be redesignated at a downstream location to diesel fuel subject to a different § 80.510 per-gallon standard, high sulfur NRLM diesel fuel, LM diesel fuel, or heating oil, provided that the PTD reflects the standard of the new designation and:

(1) The new PTD complies with the appropriate PTD provisions of § 80.590;

(2) Fuel redesignated as high sulfur NRLM diesel fuel complies with the requirements of § 80.536(f)(1) (i) through (iv); and

(3) Fuel redesignated as 500 ppm NR diesel fuel after June 1, 2010 complies with the requirements of § 80.536(g)(2) (i) through (iii).

12. A new § 80.512 is added to read as follows:

§ 80.512 May an importer treat diesel fuel as blendstock?

An importer may exclude diesel fuel that it imports from its calculations under the motor vehicle diesel fuel temporary compliance option and credit calculations under §§ 80.530–80.532, and from its non-highway baseline and nonroad, locomotive and marine diesel fuel credit calculations under §§ 80.534–80.536, and instead the importer may designate such diesel fuel as diesel fuel treated as blendstock (DTAB), if all the following conditions are met:

(a) The DTAB must be included in all applicable baseline, credit and compliance calculations for diesel fuel for a refinery operated by the same company that is the importer. That company must meet all refiner standards and requirements.

(b) The importer-company may not transfer title to the DTAB to another party until the DTAB has been used to produce diesel fuel and all refiner standards and requirements have been met for the diesel fuel produced.

(c) The refinery at which the DTAB is used to produce diesel fuel must be physically located at either the same terminal at which the DTAB first arrives in the U.S., the import facility, or at a facility to which the DTAB is directly transported from the import facility.

(d) The DTAB must be completely segregated from any other diesel fuel,